



THE ASSAM GAZETTE

অসাধাৰণ

EXTRAORDINARY

প্ৰাপ্ত কৰ্তৃত্বৰ দ্বাৰা প্ৰকাশিত

PUBLISHED BY THE AUTHORITY

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No. 460 Dispur, Friday, 24th June, 2022, 3rd Ashadha, 1944 (S. E.)

GOVERNMENT OF ASSAM
ORDERS BY THE GOVERNOR
DEPARTMENT OF HOUSING AND URBAN AFFAIRS

NOTIFICATION

The 7th May, 2022

No.UDD(T)200/2022/6.- In exercise of the powers conferred by the Section 9(Nine) of the Assam Town & Country Planning Act, 1959 (Assam Act II of 1960) read with Sub-section (I) of Section 10(Ten) of the Assam Town & Country Planning Act (as amended), the Governor of Assam is pleased to published the following notice regarding the publication of Draft Master Plan for Pathsala-Patacharkuchi.

Notice for the publication of Draft Master Plan for Pathsala-Patacharkuchi:

1. It is notified that the Draft Master Plan for Pathsala-Patacharkuchi prepared by the Directorate of Town & Country Planning , Government of Assam, Town & Country Planning Act, 1959 read with Sub-section I of Section 10(Ten) of Assam Town & Country Planning Act (as amended), for the area described in the schedule below is here by published.
2. Any person or persons affected by the Draft Master Plan may submit their objection or opinion in writing to the Director, Town & Country Planning, Government of Assam, Dispur, Guwahati-6 within two months from the date of publication.
3. The Draft Master Plan for Pathsala-Patacharkuchi with all relevant papers and maps may be inspected free of cost during office hours at the office of the Director, Town & Country Planning, Government of Assam, Dispur, Guwahati-6, office of the Deputy Director, Town & Country Planning, Dist. Office –Barpeta, the Circle Office, Pathsala-Patacharkuchi, Revenue Circle, Pathsala-Patacharkuchi, office of the Chairman, Pathsala-Patacharkuchi, Municipal Board, Pathsala-Patacharkuchi. Copies of the Draft Master Plan for Pathsala-Patacharkuchi are available at the office of the Deputy Director, Town & Country Planning, Barpeta on payment.

SCHEDULE

A. SITUATION AND AREA

District:	:	Bajali
Sub-Division	:	Bajali
Police Station	:	Patacharkuchi
State	:	Assam.
Appr. Draft Master Plan area:		100.08 Sq. km / 100080 hectares
Municipal area :		Pathsala Municipal area is 11.2 sq.km. and Patacharkuchi Master Plan area is 2 sq.km.
Population	:	70,096 (as per Census 2011)

B. REVENUE AREAS INCLUDED IN THE MASTER PLAN AREA FOR PATHSSALA PATACHARKUCHI :

<u>Mouza</u>	<u>Villages</u>
Uttar Bajali Mouza :	Ghotbarsaderi, Ratanpur, Bhogpur, Nagargaon, Doloi Gaon part I, Doloi Gaon part II, Pathsala town, Rahadhar Birkala, Nalana, Haguri, Muguria, Barbamkhata, Barbang,
Pub Bajali Mouza :	Barbhala, Gobindapur, Sarihchakla, Patacharkuchi, Bichankuchi, Palash Simulbari.
Sariha Mouza :	Dubi, Bargunari, Titkataje, Raipur, Zalikhata, Bamunkuchi, Belna, Bhethua, Nalipara, Lechrapara, Dumuria, Titkagaria, Pathssala Gaon, Kukua Batabari, Barbhaluki, Kanimara, Barnalikuchi, Bar-bairagi, Barsahan, Dharmtala, Niz-sariha, Barbatabari & Khudrabhaluki.

C. DESCRIPTION OF THE BOUNDARIES:

North	:	Kurobaha village.
South	:	Sarthebari Circle
East	:	Nalbari.
West	:	Sarupeta Circle.

KAVITHA PADMANABHAN,
Commissioner & Secretary to the Government of Assam,
Department of Housing and Urban Affairs,
Dispur, Guwahati-6.

Chapter 1: INTRODUCTION TO MASTER PLAN AREA

1. LOCATION AND REGIONAL SETTING

1. 1. Location and Area: Pathsala-Patacharkuchi Master Plan Area is extended from 26°30'18.4"N to 26°31'0"N latitude and 91°10'40.1"E to 91°16'0"E longitude..

District: Bjal District.

Sub-Division: Pathsala

Draft Master Plan area: 100.8 sq. km / 10080.00 hectares

Municipal area : Pathsala municipal area is 11.2 sq. km & Patacharkuchi Municipal area is 2 sq.km.

Population : 70,096 (as per Census 2011)

1.2. DESCRIPTION OF THE BOUNDARIES:

North : Kurobaha village.

South : Sarthebari Circle.

East : Nalbari.

West : Sarupeta Circle.

Revenue areas included in the Master Plan area for Pathsala-Patacharkuchi are:

Mouza

Villages

Uttar Bajali Mouza: Ghotbarsaderi, Ratanpur, Bhogpur, Nagargaon, Doloi Gaon part I, Doloi Gaon part II, Pathsala town, Rahadhar Birkala, Nalana, Haguri, Muguria, Barbamkhata, Barbang,

Pub Bajali Mouza: Barbhala, Gobindapur, Sarihchakla, Patacharkuchi, Bichankuchi, Palash Simulbari.

Sariha Mouza: Dubi, Bargunari, Titkataje, Raipur, Zalikhata, Bamunkuchi, Belna, Bhethua, Nalipara, Lechrapara, Dumuria, Titkagaria, Pathssala Gaon, Kukua Batabari, Barbhaluki, Kanimara, Barnalikuchi, Bar-bairagi, Barsahan, Dharmtala, Niz-sariha, Barbatabari & Khudrabhaluki.

1.3: Brief History Of The Town And Surrounding:

1.3.1: OVERVIEW OF PATHSALA-PATACHARKUCHI TOWN:

Towns are the focal points of trade and administration. Administrative compulsions, economic and commercial necessities shape the course of town development. The small urban centre or towns in North-East India are over grown villages: these were trading centre with rural development administrative outfits and have grown into urban settlements in due course of time. However, in spite of being labelled as urban areas most of these urban centres do not possess adequate and modern infrastructure facilities such as proper drainage, safe sewage disposal and sanitation facilities, portable and safe water supply, education, health care facilities etc.. There is hardly any agricultural surplus to sustain the urban life and social development. These small towns have vast scope and potential to be developed as centers of growth and development. Their growth is dependent on a robust administrative machinery. For the growth of these small urban areas as vibrant urban centers for promoting overall growth of the urban centre and the neighbouring areas, it is necessary to promote economy with major focus on development/ boosting agriculture produce. Moreover, appropriate steps must be taken to streamline the management structure by abolishing the system of multiplicity of authorities for urban planning and its execution.

To some extent, development and growth of a town represent the same thing. Development indicates a planned growth of the town that grows anyway even if a proper direction is not provided to it. Such a haphazard growth then becomes an emerging issue in near future.

MASTER PLAN

‘Master Plan’ is a statutory instrument for controlling, directing and promoting sound and rational development and redevelopment of an urban area with a view to achieving maximum economic, social and aesthetic benefits. It serves as a vision document giving perspective of 20 to 25 years keeping in view the future growth of population, economic development potential and ecological improvements. Master plan is required to take note of regional and national context, which have bearing on the development of different areas.

The purpose of a Master Plan is to promote growth and guide and regulate present and future development of towns and cities. It is an instrument to work out land and infrastructure requirements for various urban and rural uses, and allocate land for various uses to result in harmonious and sustainable distribution of activities so that towns / cities are provided with a form and structure within which they

can perform all their economic and social functions efficiently and effectively. However, the scope of a master plan confines to the broad proposals and allocation of land for various uses such as residential, industrial, commercial, recreational, public and semi-public, etc. It proposes a network of roads and pattern of streets and traffic circulation systems for the present and the future. A master plan identifies areas required to be preserved and conserved and promotes development of areas of natural scenery and landscape together with preservation of features, structures or places of historical, architectural and scientific interest and environmental value. Master plan includes zoning regulations for regulating development within each zone. Thus, a master plan is an important instrument for guiding and regulating development of towns and cities over a period of time, and contributes to planned development both conceptually and operationally.

TWIN CITY MASTER PLAN

PATHSALA PATACHARKUCHI MASTER PLAN

VILLAGES AND TOWNS INCLUDED IN THE PATHSALA-PATACHARKUCHI MASTER PLAN AREA

The Pathsala-Patacharkuchi twin city Master Plan includes a total of 40 villages along with the town area of Pathsala and Patacharkuchi consisting all wards from each town. The villages selected to be part of the master plan are adjacent to the town of Pathsala and Patacharkuchi having homogenous characteristics. List of the towns and villages included in the master plan is as under:

Table – xx: Name of the Villages/ Towns along with population included in the Pathsala- Patacharkuchi Master Plan Area:

Sl. No.	Name of the Village/ town	Population	Sl. No.	Name of the Village/ town	Population
1	Bhogpur (Bhoupar)	1252	22	Pathsala Gaon	663
2	Ratanpur	1531	23	Titka Garia	2393
3	Doloi Gaon	1141	24	Dumuria	1342
4	Nagar Gaon	139	25	Kukua Batabari	300
5	Ghotbar Saderi	873	26	Kani Mara	986
6	Rahadhar Birkala	1706	27	Khudra Bhaluki	757

Sl. No.	Name of the Village/ town	Population	Sl. No.	Name of the Village/ town	Population
7	Nalana	712	28	Bar Bhaluki	1742
8	Haguri Gaon	1194	29	Barsahan	927
9	Muguria	3101	30	Barnali Kuchi	1759
10	Bar Bamakhata	3972	31	Bar-Bairagi	851
11	Barbang	5685	32	Niz-Sariha (Nizasariha)	1132
12	Dubi	2931	33	Dharamtala	1700
13	Bargunari	1263	34	Barbatabari	744
14	Titkataje	980	35	Sariha Chakla (Sari Chakla)	2135
15	Raypur	1594	36	Barbhala	966
16	Jalikhata	1598	37	Gobindapur	1963
17	Bamun Kuchi	1572	38	Pahala Simalu Bari (Lalah)	1223
18	Bhethua	697	39	Bichan Kuchi	1322
19	Belona	1331	40	Doloi Gaon	176
20	Lechera Para	539	41	Pathsala Town	11242
21	Nali Para	432	42	Patacharkuchi Town	1530

Source: Census of India 2011

PATHSALA TOWN

Pathsala, a small urban centre on the north bank of the river Brahmaputra, is the most important place of Bajali civil sub-division in the newly created Bajali district. It was declared a town in the year 1968. Although, in the last 20 years the town has witnessed a steady growth in population through natural increase and migration of people from nearby areas (adjacent villages and Baksa district), the process of urbanization has not yet picked up the pace due to which the town lacks modern urban facilities to match the growing population and its demands.

Pathsala became an important center of civil administration in the year 1968 with the formation of Pathsala town committee. Subsequently, the town was promoted as a sub-divisional head quarter when Bajali was set up as one of the sub-divisions of the district of Barpeta in 1988. At

present, Pathsala is a center of education as well as a market for rural trade and commerce due to its connectivity with important towns and cities of the state and country through roads and railways. The slow rate of urbanization and the impact of increased population on the town of Pathsala necessitate preparation of a master plan for planned development of the town before the situation worsens and goes out of control. Even though the town lacks a master plan, the local authority has undertaken many development works to meet the demands of the growing population.

DEMOGRAPHY

The town is divided into 4 wards. According to the census 2011, the total population of the town is 11,242 of which 5,824(51.8%) are males while 5,418(48.19%) are females.

1.3.2: HISTORICAL BACKGROUND:

There are various legends associated with the origin of the name Pathsala. According to one legend the ancient name of Pathsala was "Choukhar Hatkhola", a market place of "Choukha Nagar" Present Choukhuty. According to the book written by Francis Hamilton's "An Account of Assam" there were some academies in ancient Kamrup called "Choubari" under the vedic brahmanas. It is important to note that such kind of "Choubaries" were also found here in this village for which the ancient revenue village of Pathsala was known as; Choupathabari" or "Choukhabatabari" which in course of time took the name of "Pathsala".

A few scholars hold different view on the origin of the name "Pathsala", according to them, the name has been derived from a big water body called "Panisala". It was a big pond constructed by koch king Naranarayan in the middle of the 16th century. He also appointed Purushottam Dwija a person from "Chouka Panisala" as the chief of Bajali Chakla. It is believed by the people of Bajali that this "Chouka Panisala" is the present day Pathsala town.

Apart from being an important urban centre, Pathsala is also an important centre of culture and heritage in lower Assam. It the birth place of mobile theatre popularly known as Bhramyaman Theatre and is known as the 'City of Drama' in Assam. Moreover, the famous "Deodhani Dance", has Pathsala as its home. The town is divided into 4 wards. According to the census 2011, the total population of the town is 11,242 of which 5,824(51.8%) are males while 5,418(48.19%) are females.

PATACHARKUCHI TOWN:

Patacharkuchi, a newly declared small town in lower Assam is situated on the banks of the river Kaldia in the eastern part of Bajali sub-division of the district of Bajali. The river runs through the town and divides into two parts. Patacharkuchi was under the panchayat till 2103 and was a village. It was only after 2013 that village boundary was expanded by adding few neighbouring villages under Patacharkuchi and it was given the status of a town. Total area of the town is 2sq. km and the road length is around 16 km.

The town has had a steady growth, establishment of Patacharkuchi police station in 1908 and Bajali circle in 1932 by taking all the eight moujas of Bajali area with its circle office at Patacharkuchi contributed to a large extent to the growth of Patacharkuchi and ultimately it was declared as town in 2013.

The place started growing and developing as the central place of Bajali area since the time of Koch king Naranarayan. In 1548 AD Koch king Narnarayana appointed Purosottam Dev Choudhury (Bojeila Choudhury) as the Choudhury (chief administrative officer) for Bajali Pargona. During his time, Bajali was set up as the “Bajali Chakala” with a view to collect revenues and control the local administration. Even today, there is a village near Patacharkuchi called “Chakla”.

Though in course of time the geographical shape of Bajali and the name of this administrative unit were changed as Tehsil, Pargana, and Circle respectively during the rule of the Ahoms, Mughuls and the British, Patacharkuchi was the main center of Bajali area until Bajali was declared as one of the sub-divisions of the district of Barpeta in 1988.

There are many legends associated with the origin of the name “Patacharkuchi”. According to one legend, it was during Ahom period that a Gosain of Haridevas cult came from Jagra Satra to this village and founded there a Satra. Later on this Satra shifted to place “Pata Satra” by giving up its origin foundation. So, by considering the significance of this historical event, the British during the time of Major Francis Jenkins, the commissioner of Kamrup renamed this village as “Pattacharkuchi” which means “Patta” [ownership of land]+ ‘Char’ [give up] + “Kuchi” [village] and probably “Patacharkuchi” is the simplified form of the word “Pattacharkuchi”.

Another legend associated with the origin of the name Patacharkuchi mentions that “Padshah” (Badshah) of Bengal with a view to fighting with the Bhutia King established a camp at this very

spot and thus the place was called “Padshaharkuthi” which later became “Patacharkuchi”. People of Bajali also call Patacharkuchi as “Patarghat” because of two reasons. First, there was a river port through which the trade of Jute (known as ‘Marapat’ in assamese and ‘Pata’ in local dialect) was carried on and secondly, the immigrant traders gathered concrete ring of wells known as Nadar Pat in large number. Thus, the word “Patacharkuchi” may have been derived from the words “Pata” and “Pat”.

It has already been mentioned that Patacharkuchi is a new town and primarily a center of local trade and commerce with the facilities of inter connection by means of roads and railways with the important parts of Assam as well as with different states of India. The Patacharkuchi town has a population of 1530 as per the Census 2011. The female Sex Ratio is of 957 against state average of 958. Patacharkuchi Town Committee has total administration over 1120 houses to which it supplies basic amenities like water and sewerage. It is also authorized to built roads within Municipal Board limits and impose taxes on properties coming under its jurisdiction. Patacharkuchi has 38% population engaged in either main or marginal works. 52% male and 23% female population are working population. 45% of total male population are main workers and 7% are marginal workers. For women 11% of total female population are main and 12% are marginal workers.

1.3.3: LOCATION AND LINKAGES:



1.3.3.1: ROAD NETWORK

The National Highway 31 passes through Pathsala and Patacharkuchi town and connects it with all other parts of Assam. The National Highway 152 (India), connecting Bhutan with Assam, starts from Pathsala. The inner arterial and connector roads have wide connectivity with the rest of the neighboring villages

and towns. The road distance between Pathsala and Guwahati is 103 km and with Barpeta Road is 35.1 Km.

1.3.3.2: RAILWAYS

Railways connects it with important cities such as Kolkata, Guwahati, Barpeta Road, Bongaigaon etc.

1.3.3.3: AIRWAYS

Guwahati airport is the largest and the busiest airport nearing this place, which connects Pathsala to major cities in the country as well as to other major cities and towns in Assam. Its approximately 103 kms. from Pathsala Town.

1.3.4: GEOGRAPHICAL LOCATION:

The Pathsala-Patacharkuchi is extended from 26°30'18.4"N to 26°31'0"N latitude and 91°10'40.1"E to 91°16'0"E longitude. The Pathsala- Patacharkuchi Master Plan area is surrounded by Sarupeta circle in west, Nalbari in the east, Kurobaha in the north, Sarthebari Circle in the south.

1.3.5. Physical characteristics

Various physical characteristics of Pathsala-Patacharkuchi are described as below in a tabular form-

Parameter	Description
Topography	Mostly alluvial plains
Average Temperature	37°C (maximum), 8°C (minimum)
Extreme Months	July (Summer) and December (Winter)
Humidity	80% (Maximum)
Rainfall	2742 MM (Average)
Monsoon Period	May to September

1.4. NEED FOR THE MASTER PLAN

Pathsala town is the educational capital of lower, is the most important town in this District as well as the state in terms of its transport connectivity and strategic location. Responding to multifarious developments, internal and external, the town must respond to its existing problems, the new emerging socio-economic forces with a vision of its own. Pathsala-Ptacharkuchi, most importantly should stand out amongst other business and educational hubs and the twin city should perform its functions well an example to the other town of the State. Thus, the vision for Pathsala-Patacharkuchi Town for its development through 2041 is:

PATHSALA-PATACHARKUCHI TOWN TO BE

- ✓ ***ONE OF THE MOST ADMIRER EDUCATIONAL & COMMERCIAL HUB OF THE STATE.***
- ✓ ***WITH A UNIQUE IMAGE OF ITS OWN.***
- ✓ ***CREATE LIVELIHOOD TO ALL THE SECTORS.***
- ✓ ***IMPROVEMENT OF THE EXISTING INFRASTRUCTURE TO FACILITATE FUTURE PLANNING NEEDS.***
- ✓ ***SLUM FREE TOWN.***

Vision being a cherished dream, to achieve this vision it is necessary to break it into a number of goals and subsequently to objectives.

- ✓ The process can be further taken up as sector wise development plans and review of local area plans in subsequent 5 years term.
- ✓ By proper policy planning and strict adherence of the land use zoning and building byelaws.
- ✓ By submerging the planning with combining funds from the state as well as the centrally sponsored schemes.

FUNCTIONS AND NEEDS OF THE PLANNING AREA

The Master plan for Pathsala-Patacharkuchi has been prepared & considering the major functions of the planning area and future needs of the population of the area. Moreover the influence of whole Bajali District over Pathsala-Patacharkuchi planning area as its service area for spill over activities. Above all, the livelihood pattern of the indigenous aborigines are also given due consideration in formulation of the proposed land use plan to accommodate the future

activities , which will meet the functional need of the area, and satisfy the aesthetic and emotional aspiration of the citizens.

Major functions of the planning area:

Based on the studies made over the existing situation and future needs, the Pathsala-Patacharkuchi planning area can be inferred to have the following major functions.

- i) To function as an Educational Hub .
- ii) To function as a trade and commerce centre.
- iii) To function and grow as a growth centre for small scale and household industries.
- iv) To function as growth centres for various services.
- v) To function as a recreational area suited for outings from the congestion polluted environment .
- vi) To function as a cultural hub.
- vii) To function as transportation node.

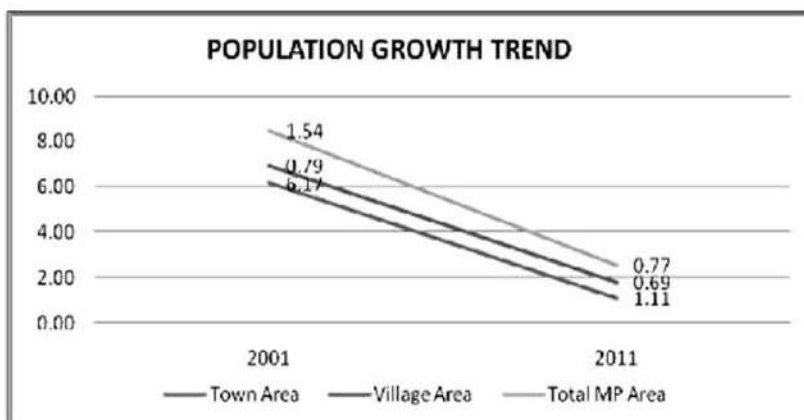
Plan period:

The growth of human settlement being a continuous process and for the purpose of preparation of this master plan, a twenty year time span up to 2041 AD is adopted to reflect the future requirements and needs of the area in an effective manner. However, it is a fact that the proposals cannot be entirely based on the requirements of the plan period alone ,as it is required to function with same or more efficiently even after the plan period with modification ,alternations to the existing plan as per the functional requirement of that time.

CHAPTER 2: DEMOGRAPHY

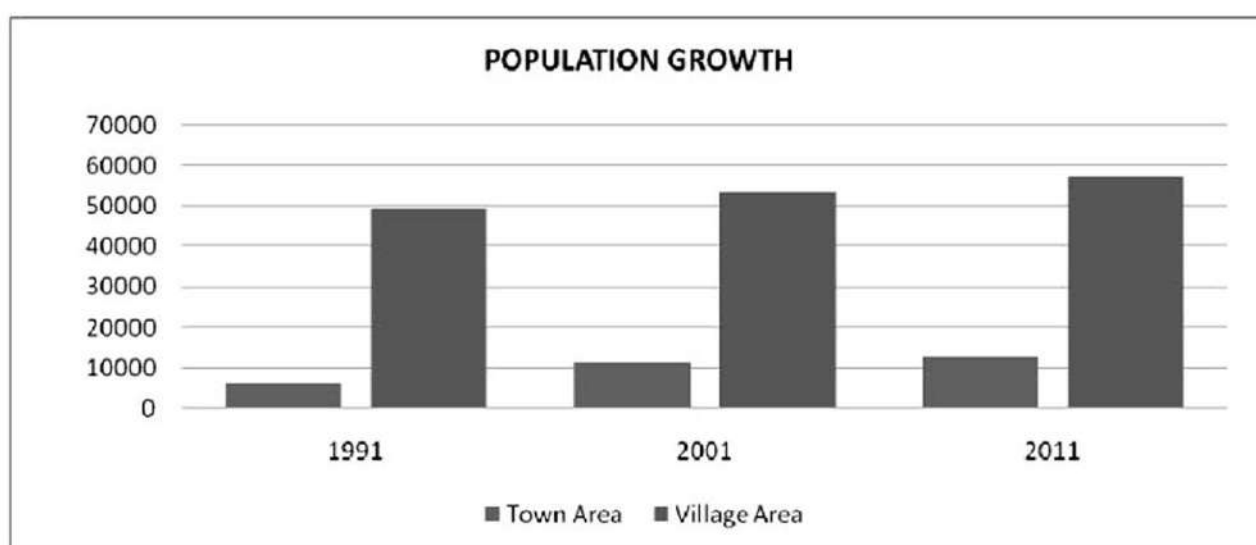
2.1.1: POPULATION GROWTH: PATHSALA-PATACHARKUCHI MASTER PLAN AREA:

The population of Pathsala Patacharkuchi Master Plan area has been categorized into urban, rural and total master plan area population for study. The decadal growth of population of Master Plan Area from 1991 to 2011 is shown in



the table No.1. The population of the Master Plan Area has increased from 55728 in 1991 to 70096 in 2011. However, Average Annual growth rate shows a declining trend since last 2 decades.

Year	Town Area	Village Area	Total MP Area	AAGR	AAGR	AAGR
1991	6287	49441	55728	Town Area	Village Area	Total MP Area
2001	11441	53491	64932	6.17	0.79	1.54
2011	12772	57324	70096	1.11	0.69	0.77



2.1.2: POPULATION DENSITY:

The density of population of the Master plan area was 6441 persons per sq. km. in the year 2001, which has been increased to 6953 persons per sq. km. in the year 2011. The density of population.

2.1.3: SEX-RATIO:

Defined as the number of females per 1,000 males in a population, the Pathsala Patacharkuchi Master Plan area has an average sex ratio of 995. This is in general higher than the state (958) and national (901) average. The sex ratio in rural area is higher than the urban part of the master plan area. The sex ratio has been increasing steadily over the past decade. There have been significant increases of sex ratio the last decade (2001-2011) which 5.7. The higher number of female per thousand male in the master plan area envisage an equitable socio economic condition of the region. The sex ratio/ gender ratio serves as an important indicator to ensure gender mainstreaming (visible and tangible) while project design and implementation.

	Urban			Rural			Master Plan Area			% of Growth
Year	Male	Female	Sex Ratio	Male	Female	Sex Ratio	Male	Female	Sex Ratio	AMP
1991	4554	3916	859	25307	24134	953	29861	28050	939	
2001	6167	5274	855	27278	26213	961	33445	31487	941	
2011	6600	6172	935	28545	28779	1008	35145	34951	995	5.7

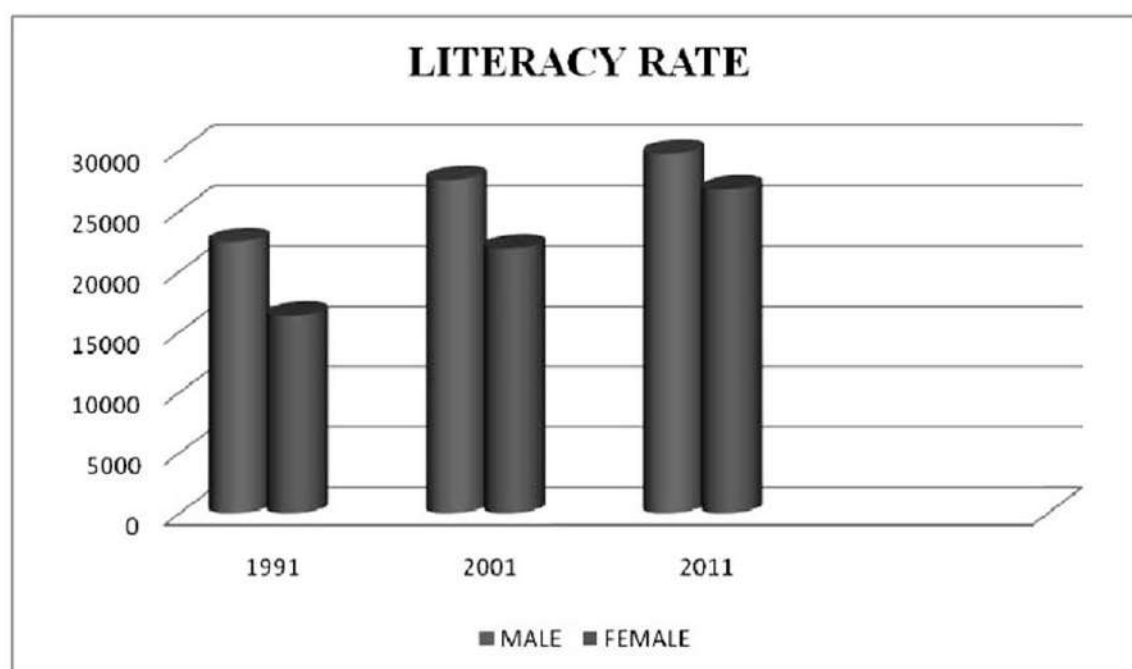
(Graph with ratio over 3 decades.. 1991, 2001, 2011)

2.1.4: LITERACY:

As per the year 2011 census report, Male literacy rate of the town is 84.68% and the female rate literacy of the town is 76.65%. The total literacy rate of the town is 80.67% compared to national urban figure of 59.5%.

YEAR	POPULATION			LITERATES			% OF LITERACY		
	M	F	T	M	F	T	M	F	T
1991	29861	28050	57911	22474	16349	38823	75.26	58.28	67.03
2001	33445	31487	64932	27608	21920	49528	82.54	69.61	76.27
2011	35145	34951	70096	29761	26790	56551	84.68	76.65	80.67

Source: Census of India.



2.1.5: WORKING & NON-WORKING POPULATION:

AREA	TOTAL POPULATION			WORKING POPULATION			NON-WORKING POPULATION			WORK ER IN
	T	M	F	T	M	F	T	M	F	%
GHOTBARSADER I	873	424	449	530	263	267	343	161	182	60.71
RATANPUR	1531	759	772	800	454	346	731	305	426	52.25
BHOGPUR	1252	615	637	783	392	391	46	223	246	62.53
NAGAR GAON	139	68	71	88	45	43	51	23	28	63.30
DOLOI GAON PART I	1141	572	569	462	327	135	679	245	434	40.49
DOLOI GAON PART II	176	85	91	97	49	48	79	36	43	55.11
PATHSALA TOWN	11242	5824	5418	3742	2901	841	7510	2923	4577	33.28
RAHADHAR BIRKALA	1706	851	855	762	496	266	944	355	589	44.66
NALANA	712	363	349	436	220	32	460	143	317	61.23
HAGURI	1194	599	595	1072	345	91	758	254	504	89.78
MUGURIA	3101	1539	1562	1479	851	221	2029	688	1341	47.69
BARBAMKHATA	3972	1936	2036	2273	1082	397	2493	854	1639	57.22
BARBANG	5685	2821	2864	2273	1590	683	3412	1231	2181	39.98
BARBHALA	966	462	504	635	522	113	685	220	465	65.73
GOBINDAPUR	1963	952	1011	693	596	97	1328	430	898	35.30

SARIH CHAKLA	2135	1088	1047	578	403	175	1442	492	950	27.07
PATACHARKUCH	1530	776	754	505	381	124	952	373	579	33.00
I										
BICHANKUCHI	1322	671	651	403	329	74	817	290	527	30.48
PALASH	1223	609	614	403	329	74	820	280	540	32.95
SIMULBARI										
DUBI	2931	1453	1478	961	774	187	1970	679	1291	32.78
BARGUNARI	1263	638	625	355	333	22	908	305	603	28.10
TITKATAJE	980	497	483	287	263	24	693	234	459	29.28
RAIPUR	1594	797	797	704	470	234	890	327	563	44.16
ZALIKHATA	1598	803	795	896	484	412	702	319	383	56.07
BAMUNKUCI	1572	770	802	828	479	349	744	291	453	52.67
BELNA	1331	673	658	441	380	61	890	293	597	33.13
BHETHUA	697	359	338	211	200	11	486	159	327	30.27
NALIPARA	432	215	217	147	129	18	285	86	199	34.02
LECHRAPARA	539	271	268	145	135	10	394	136	258	26.90
DUMURIA	1342	676	666	426	384	42	916	292	624	31.74
TITKAGARIA	2393	1208	185	1226	735	491	1167	473	694	51.23
PATHSALA	663	332	331	229	178	51	434	154	280	34.53
GAON										
KUKUA	300	138	162	86	71	15	214	67	147	28.66
BATABARI										
BAR BHALUKI	1742	869	873	621	449	172	1121	420	701	35.64
KANIMORA	986	487	499	268	237	31	718	250	468	27.18
BARSAHAN	927	471	456	352	235	117	575	236	339	37.97

BARNALIKUCHI	1759	893	866	647	503	144	1112	390	722	36.78
BARBAIRAGI	851	422	429	255	220	35	596	202	394	29.96
DHARAMTALA	1700	855	845	722	461	261	978	394	584	42.47
NIZ SARIHA	1132	562	570	483	307	176	649	255	394	42.66
BARBATABARI	744	372	372	262	200	62	482	172	310	35.21
KHUDRA BHALUKI	757	370	387	184	159	25	573	211	362	24.30

2.1.6: SC POPULATION & ST POPULATION:

YEAR	POPULATION			SC POPULATION			ST POPULATION		
	M	F	T	M	F	T	M	F	T
1991	29861	28050	57911	2166	1967	4133	796	749	1545
2001	33445	31487	64932	2381	2291	4672	1107	824	1931
2011	35145	34951	70096	5287	2653	7940	2634	1954	4588

Source: Census of India

2.1.7: POPULATION 0-6 YEARS IN PATHSALA-PATACHARKUCHI MASTER PLAN AREA:

YEAR	TOTAL POPULATION AGE GROUP (0-6)	MALE	FEMALE
1991	7776	4036	3740
2001	6718	3462	3256
2011	6558	3314	3243

Source: Census Of India.

2.2: MIGRATION POPULATION:

It is observed from the transportation survey that besides the normal population houses in the town, there is also some portion of people from surrounding area, whose comes to Pathsala town & Patacharkuchi town for daytime activities.

2.3: POPULATION PROJECTION:

Population projection exercise is one of the pre-requisite tasks in any city planning. Population of the PPMA has been projected based on an assumed growth rate up to the horizon period. In most cases, the growth rates are arrived at by analyzing trends of natural growth rate of population. Having arrived at the growth rates and understanding the driving forces of such a growth rate, several statistical techniques such as arithmetic increase, geometric mean method, and component method, can be applied to project population. However for Pathsala Patacharkuchi Masterplan area, the component method of population has been taken in to consideration for projection of population for the year 2031.

Year	Town Area	AAGR	Year	Projected Pop
1991	6287		2011	12772
2001	11441	6.17	2021	23242
2011	12772	1.11	2031	25946
2021	23242	6.17	2041	47217

Year	Village Area	AAGR	Year	Projected Pop
1991	49441		2011	57324
2001	53491	0.79	2021	62020
2011	57324	0.69	2031	66464
2021	62020	0.79	2041	71909

Year	MP Area	AAGR	Year	Projected Pop
1991	55728		2011	70096
2001	64932	1.54	2021	81673
2011	70096	0.77	2031	88168
2021	81673	1.54	2041	102730

(Graph with ration over 3 decades.. 1991, 2001, 2011)

CHAPTER 3: ECONOMIC BASE AND EMPLOYMENT

The economic growth of Pathsala-Patacharkuchi town has been driven by both Formal and Informal sector of economy. Mainly it can be characterised as a developing market economy.

Economic base of any place refers to companies and any other employers that generate lots of jobs in a local or regional areas. These are usually includes government and civil service department , companies , industries , trade and agriculture etc. More than 65% of the Pathsala-Patacharkuchi Master Plan Area is rural and 70% of this depends on agriculture.

One of the most vibrant economic Zones is the entire region Pathsala-Patacharkuchi is a forerunner of the economic activity. Famous all over the region up-to West Bengal for Rabi crops and vegetables, the daily transaction of vegetables at Pathsala wholesale market is big as Patacharkuchi . Famous for rice, wheat , master seed ,betel nut and Bamboo all throughout the region.

Pathsala is also one of the biggest market centre of clothes and other household product for entire Bajali district. The retail business in Pathsala-Patacharkuchi can be gauged from the number of shops.

3.1. FORMAL SECTOR OF ECONOMY:

People working in civil service, public sector units ,government service, defence ,multinational companies, school, colleges, research institutes, management organizations, bank etc. all belongs to Formal Sector. This sector encompasses all jobs with normal hours and regular wages and are recognized as income sources on which income taxes must be paid.

3.1.1: OFFICES:

1. D.C OFFICE, BAJALI
2. S.P OFFICE, BAJALI
3. BAJALI DEVELOPMENT BLOCK
4. BAJALI SUB-DIVISION
5. BLOCK EDUCATION EXTENSION OFFICER OFFICE (BEEO), BAJALI
6. BAJALI REVENUE CIRCLE OFFICE, PATACHARKUCHI
7. TREASURY OFFICE, PATHSALA
8. MUGURIA BRANCH POST OFFICE
9. OFFICE OF THE ASSISTANT DIRECTOR OF INDUSTRIES & COOMERCE, PATHSALA, BAJALI

10. KHUDRA BHALUKI SUB POST OFFICE
11. BAMAKHATA POST OFFICE
12. CIVIL SDO OFFICE, BAJALI
13. DUBI POST OFFICE
14. PATHSALA SUB-POST OFFICE
15. BARBANG POST OFFICE
16. RAIPUR POST OFFICE
17. P.H.E OFFICE, BAJALI
18. PATHSALA MUNICIPALITY OFFICE
19. PATACHARKUCHI MUNICIPALITY OFFICE
20. APDCL OFFICE, PATHSALA.

3.1.2: EDUCATIONAL INSTITUTE:

Pathsala town is to be considered as educational hub of Assam. The following are the various educational institutions in Pathsala-Patacharkuchi MP Area .

1. Jnanpith Uchcha Madhyamik Vidyalaya, Bhogpur
2. Bajali girls high school,Ratanpur
3. Dakhin Bajali Balika Vidyalaya, Helana
4. Nalbari high school, Helana
5. Muguria Anchalik high school
6. Muguria Uttar Bajali high school
7. Barbang Chaukhuty high school
8. Ganakpukhuri high school, Dubi
9. Titka high school
10. Kanimora high school
11. Bhaluki high school
12. Patacharkuchi vidyapith H.S School
13. Nirmal Haloi College, Patacharkuchi
14. Apniph Academy, Patacharkuchi
15. Bhattadev University, Pathsala
16. Bajali H.S School, Pathsala
17. Talent Search Academy, Pathsala
18. Siksha Tirtha, Pathsala
19. Lakshminath Bezbaruah Academy, Pathsala
20. Krishna Kanta Handique College, Pathsala
21. Bhattadev Academy, Pathsala
22. Bibekananda Academy, Pathsala
23. Gilbard Academy, Pathsala

24. Anandaram Baruah Academy, Pathsala

25. Pathsala Sikshpith, & so on.

3.1.3: INDUSTRIES:

Industries are momentum of economic growth. They provide employment to growing population and also bring in other economic activities in their forward and backward linkages.

There are no large scale industries as such in this town. Few of the industries are operated mostly from the housed within the town area. Those can be continued as far as the environment is not at risk. They are small and medium scale production and packaging industries only.

As per record of DICC Barpeta, following are the category wise registered ongoing industries

<u>SECTOR</u>	<u>TYPE OF INDUSTRIES</u>	<u>NO. OF UNITS</u>	<u>LOCATED AREA</u>
AGRICULTURE	i. ATTACHAKI	1	PATHSALA
	ii. RICE MILL	1	PATHSALA
	do	2	PATACHARKUCHI
	do	1	BARBALA
	do	1	DHARAMTALA
	iii. BAKERY	2	PATHSALA
FORESTRY	i. WOODEN FURNITURE	2	PATHSALA
	do	1	MUGURIA
	do	2	PATHSALA
	ii. STONE CRUSHING	1	PATACHARKUCHI
	do	1	BARBALA
	do		
INDUSTRY	i. STEELINDUSTRY	5	PATHSALA
	do	1	RAIPUR
MINERALS	NIL	NIL	NIL

Source: D.I.C.C, Barpeta.

Other industrial units of the planning areas are tailoring, readymade garments, embroidery, handloom, spice grinding, repairing of 4 wheelers and 2 wheelers, DTP works, cement & concrete products etc. There is no earmarked industrial growth centre and commercial estate at present.

3.1.4: FISHERIES:

Sl. No.	Description	Nos.	Total Area(Ha)	Productivity/Capacity	Total fish Production
1	Ponds & Tanks	1320	122	3000 /Kg/Ha/Year	219.60 MT
2	Fish seed Hatchery	1-	-	100 million fishes seeds per year-	Non functioned from last year-
3	Nursery tank	56	4.25	40 Lakhs/Ha/Year	22 Lakhs fry per year (approx.)

Source: District Fishery Dev. Office.

There are number of tanks for productions of large sized fish seed (fingerling) fair stocking the piscicultural tanks. The present productivity of fishes is only 3000 kg/ha/ year and 40 Lakhs /Ha/Year in Nursery tank, since traditional type of pisciculture is followed in most of the villages. The potential production may be increased to 6000 kg/ha/year if semi – intensive camp culture is adopted.

3.1.5. Farming:

Live stock and poultry occupy important places in the economic life of Pathsala-Patacharkuchi master plan area. Cattle, buffalo, goat, piggery etc. are the most common live stock animal of the area.

3.1.6. Wholesale Trade

There are two market associations dealing in almost all types of trade and business activity in PPMPA. Wholesale Trade in Planning Area is to be organized for the following activities:

- Food grains and perishable items
- Fruit & vegetable market
- Hardware and Building materials
- Motor parts
- Coal Market
- Timber Market

3.1.7.1 .Haulage Complex cum Wholesale Market

The Master Plan proposes to develop a new Integrated Haulage Complex including Wholesale Markets near N.H.31 . This location provides appropriate linkages for the incoming goods, outgoing goods and distribution of wholesale goods in the city. In the Haulage Complex, the Wholesale business could be operated more efficiently in a better environment. Basic functions of the Haulage Complex cum wholesale market are

- To provide facilities for carrier movement;
- To provide warehousing and storage facilities and interlink these with the wholesale markets;
- To provide servicing, lodging and boarding, idle parking, restaurant, and other related functions in the complex.

3.1.8. Existing Wholesale Market

There are no any identified wholesale market at Pathsala- Patacharkuchi MP. Area. Till such time the new wholesale market at New Place to be developed, the wholesale market activity is to continue from the existing areas. Construction Work of a Multi Utility Building is going on. After the development of the new wholesale market, the existing wholesale market area would be used for retail activity, thus not allowing the movement of any heavy and medium commercial vehicles in the central town area.

3.1.9. Retail Trade

Retail shopping areas are important as these create an image of the city. In PPMA retail shops are spread all over the town; however, the core busy area is the major town level retail trade centre.

To accommodate the required shopping, commercial offices, and other activities like cinema, hotel and related facilities, the following three-tier system of commercial development is proposed.

1. Community level - Whole of the town including the four New villages
2. Neighbourhood level
3. Cluster level

3.1.10. Tiers I, II and III–Community Shopping Centre, Neighbourhood Shopping Centres and Housing Area Cluster Shopping Centres

The Community/commercial Centre would be a modern commercial centre with multi-storey commercial buildings and shall have major retail shopping areas, multi-storey commercial offices, banks, hotels,

restaurants, and cine complexes. The Commercial Centre along with the City Facility Centre and Recreational Centre shall together form the new City-Centre.

Table: Three-Tier Hierarchy of Commercial Activities

<i>Community Commercial Centre</i>	<i>Neighbourhood Commercial Centre</i>	<i>Cluster Centre</i>
Tier I	Tier II	Tier III
<i>Population Served</i>		
About 1 lakh	About 15 thousand	About 5 thousand
<i>Area</i>		
5.4 hectare	0.46 hectare	0.11 ha
<i>Land Requirement Per Thousand Persons</i>		
540 Sqm.	306 Sqm.	220 Sqm.

Significant portion of the economics in developing countries that provides employment , livelihoods and income for millions workers and business owners. This relates to its employment potential as well as its role in inclusive growth and poverty reduction .

The Pathsala town have a weekly market and a daily market in the core area near the Hrimandir which is located just few kms from main local bus stand. The market is held twice in a week. People from the whole of Bajali District as well as the nearing places go to this market, the specific attention being local goods at cheap prices.

The Patacharkuchi town also have a weekly market and a daily market in the core area, about 400 km away from main core area.

The weekly market, is proposed to function from Facility Centre III after its development. Such other weekly markets could operate from the parking areas of the Commercial Centres on the weekly off-days.



Daily Market, Pathsala

3.2. INFORMAL SECTOR:

An Informal economy is the part of any economy that is neither taxed nor monitored by any form of Government. Although the informal sector makes up a significant portion of the economics in developing countries that provides employment, livelihoods and income for millions workers and business owners. This relates to its employment potential as well as its role in inclusive growth and poverty reduction. The towns have a weekly market in the core area. The market is held twice in a week. People from the whole of Bajali District as well as the nearing places go to this market, the specific attention being local goods at cheap prices.

The weekly market, is proposed to function from Facility Centre III after its development. Such other weekly markets could operate from the parking areas of the Commercial Centres on the weekly off-days.

3.3: OCCUPATIONAL PATTERN: The occupational structure of Master Plan Area is shown in following Tables.

Village Area:

Workers type	2001	%age	2011	%	% of Growth
Main Worker	13198	24.7	16290	28.42	23.43
Marginal Worker	3341	6.2	5997	10.46	79.50
Non Worker	36952	69.1	35037	61.12	-5.18
Total	53491	100.0	57324	100.00	

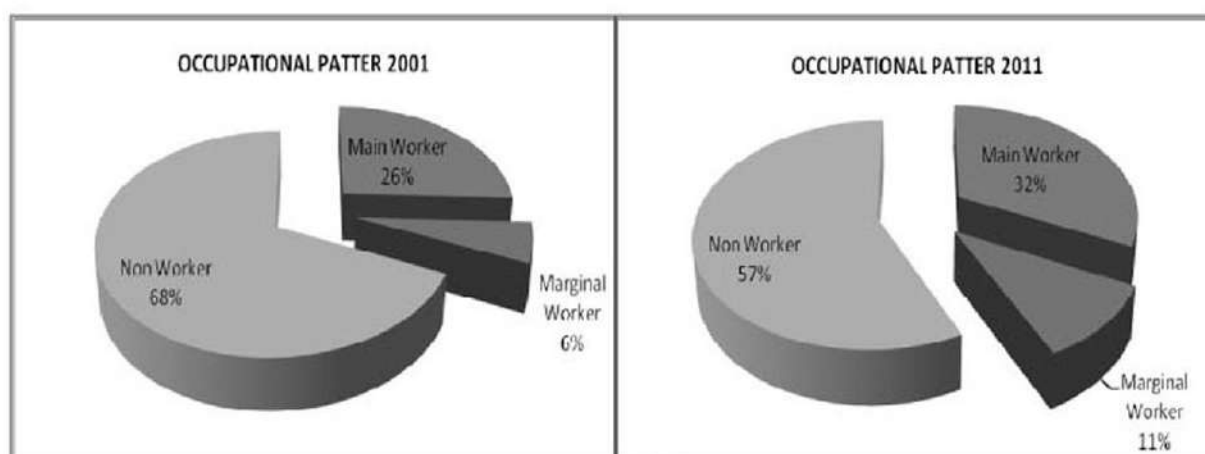
Urban Area:

Workers type	2001	%age	2011	%	% of Growth
Main Worker	3440	30.07	3731	77.62	8.46
Marginal Worker	507	4.43	589	12.25	16.17
Non Worker	7494	65.50	487	10.13	-1438.81
Total	11441	100.00	4807	100.00	

Master Plan Area:

Workers type	2001	%	2011	%	% of Growth
Main Worker	16638	25.62	20021	32.22	20.33
Marginal Worker	3848	5.926	6586	10.60	71.15
Non Worker	44446	68.45	35524	57.18	-20.07
Total	64932	100.00	62131	100.00	

In 2011, the Main workers in the Master Plan Area are 20021. It accounts 32.2% of the total Master Plan area.



Floating Population

It is observed from the transportation survey that besides the normal population housed in the town, there is a floating population of about 8%, which comes to Town areas for daytime activities.

CHAPTER 4: HOUSING AND SHELTER

4.1: HOUSING SCENERIO:

A number of housing clusters have mushroomed in and around various city centres in haphazard and unplanned manner, without a proper layout and devoid of service lines and other essential facilities. These unauthorized developments are encroachments on land parcels belonging to Govt. bodies, public private institutes or areas meant to be green belts. Therefore massive concerted effort need to be made. The remedies would include ensuring that the Master plan as well as Zonal plan and local area plan being made, so that adequate provision is made for the homeless as well as slum dwellers. Should identifying city specific housing shortage and preparing city level Urban Housing & Habitat Action plan for time bound implementation.

To promote in-situ-slum up-gradation with partnership between the central Government, State Government, urban local bodies, self / private Builders etc.

It is a known fact that cities are facing a major problems regarding Housing Affordability among the Low Income Groups (LIG) and Economically Weaker section (EWS). High cost of housing rent and development has forced these group to squat inside the city urban areas who illegally claim un-inhabited land, leading to slum development. The housing condition worsens in due course of time, due to un-affordability in maintenance and bad structure, migration to rural to urban areas and income expenditure imbalance.

4.2. Housing Supply Mechanism (Private sector participation):

Privatisation in the form of individuals and builders/developers should be encouraged to participate in the house building activity. The Development Authority could provide land with offsite physical and social infrastructure for the private entrepreneurs to invest in house building and onsite infrastructure development. Also developed individual residential plots could be provided to families where more than one dwelling unit could be constructed.

Housing has four distinct components for its development i.e., Land Assembly, infrastructure provision, building construction and post occupancy management. The following diagram gives an idea how these activities should be distributed amongst the Government, private and cooperatives making the Government a facilitator for housing development.

4.2.1. Concept of land pooling : As per the survey conducted by Town and Country Planning, Barpeta, it was observed that few neighbourhoods in the villages included in the Pathsala-Patacharkuchi MB's are not deficient.

4.3. Housing –2041

4.3.1. Household Size:

As per 2013 survey conducted by Town and country planning, Barpeta, the average household size in Pathsala-Patacharkuchi MB is 5.4/4.43, of housing but these are cases of non development of these areas may be due to lack of awareness of education. So the people are staying in houses which are made of locally available materials. The economic conditions and livelihood for these families still is agriculture and day to day informal business. The main need of the hour is to impart awareness among these masses that where they are residing in not sustainable and pose a threat to their lives. There is an urgent need to upgrade these houses as they have the tenure ship but their economic progress make it hard for them to do the same.

4.3.2. Housing Status:

As per the census records 2011, there are numbers of households in Pathsala-Patacharkuchi municipal area.

SL. NO.	NO. OF TOWNS & VILLAGES	NO. OF HOUSEHOLD
1	PATHSALA TOWN	2759
2	PATACHARKUCHI TOWN	352
3	GHATBOR SADERI	199
4	RATANPUR	315
5	BHOGPUR	262
6	NAGAR GAON	32
7	DOLOI GAON PART I	250
8	DOLOI GAON PART II	42
9	RAHADHAR BIRKALA	411
10	NALANA	169
11	HAGURI GAON	255
12	MUGURIA	735

13	BAR BAMKHATA	900
14	GOBINDAPUR	424
15	BARBANG	1269
16	BARBHALA	214
17	SARIHCHAKLA	473
18	BICHANKUCHI	279
19	PALASH SIMULBARI	256
20	DUBI	625
21	BARGUNARI	282
22	TITKATAJE	204
23	RAIPUR	341
24	ZALIKHATA	346
25	BAMUNKUCHI	339
26	BELNA	332
27	BHETHUA	161
28	NALIPARA	98
29	LECHRAPARA	122
30	DUMURIA	287
31	TITKAGORIA	543
32	PATHSALA GAON	145
33	KUKUABATABARI	65
34	BAR BHALUKI	379
35	KHUDRA BHALUKI	176
36	KANIMORA	199
37	BARNALIKUCHI	387
38	BARBAIRAGI	199

39	DHARAMTALA	383
40	NIZ SARIHA	241
41	BARBATABARI	175
42	BARSAHAN	192

4.3: HOUSING CONDITION: According to census 2011 total number of households in the Pathsala-patacharkuchi Master Plan area is 15817 against a population of 70096 persons. Out of the total households urban and rural share of households is 3111 (against population of 12772) and 12706 (against population of 57324) respectively. The average household size of the Pathsala Patacharkuchi Master Plan area is 5.4/ 4.43.

4.4: SLUMS:

4.4.1: EXISTING SLUM AREAS:

The Census of India 2001 has proposed to treat the following as 'Slum' areas: -

- All areas notified as 'Slum' by State/Local Government and UT Administration under any Act;
- All areas recognized as 'Slum' by State/Local Government and UT Administration which have not been formally notified as slum under any Act;
- A compact area of at least 300 populations or about 60-70 households of poorly built congested tenements, in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities.

According to the information provided by the Pathsala and Patacharkuchi Municipal Board, Assam, there are no any identified slum pockets in the mp area.

4.4.2. National Slum Development Program

The components of this program include:

- Provision of physical amenities like water supply, storm water drains, community bath, widening and paving of existing lanes, sewers, community latrines, street lights, etc.
- Community Infrastructure: - Provision of Community centers to be used for pre-school education, non-formal education, adult education, recreational activities etc.
- Community Primary Health Care Centre Buildings to be provided
- Social Amenities like pre-school education, non-formal education, adult education, maternity, child health and Primary health care including immunization etc.
- Provision of Shelter: The Scheme to have a component of shelter up-gradation or construction of new houses as may be required.

4.4.3. Concept of City without Slums

The Asian Development Bank through a study has worked out comprehensive guidelines for the program – ‘City without Slums’. One of the major objectives of such a program is eradication or significant reduction of poverty of urban areas. Besides this, the other objectives are to ensure the following:

- Security of tenure;
- Minimum acceptable standards of municipal infrastructure and social services;
- Improved employment and income earning opportunities;
- Improved education, skills, training and health care;
- Better access to credit and other financial services for house/plot purchase, home improvement, enterprise development and livelihood activities, and
- Improved level of community organization capacity and empowerment.

The above objectives are inter-sectored and inter-departmental. To facilitate the above, the following is envisaged .

- In case of existing slums, which are on Government lands that are not needed for development of any infrastructure or other urban activities, plans for upgrading of slums may be prepared and implemented.
- Other slum pockets may be resettled at appropriate areas with due consideration of their distance from work places.
- In all new housing schemes, at least 30% of total housing shall be one-roomed houses, part of which will go to the urban poor generally living in slums. These may be provided with cross-subsidy.

In any new land development scheme, 1% of the total land shall be reserved/developed for informal sector/vendor markets, which should be available to the urban poor families to conduct their livelihood earning activities. Such a land can be for informal sector units in food/vegetable/eating stalls and any other activities. Part of the land shall be developed for night shelter where fresh migrants to the city, having no shelter, could be provided with facility to sleep and have sanitation and bathing facilities.

4.5. Housing Stock ,Shortage and Need Assesment:

Housing shortage in Pathsala- Patacharkuchi Master Plan Area in 2041 is 11,377. Census data on the number of households, number of residential houses is as follows:

A.	Total no. of households	15,817
B.	Total number of residential houses and houses used for residence-cum-other purposes	15,565
C.	Backlog of housing required (A-B)	250
D.	Dilapidated houses (Residence and Residence-cum-other uses)	3597
E.	Total Housing Shortage in 2011 (C+D)	3,847
		(24.32% of the households)

Based on the above, in 2011 the housing shortage works out to 3847

The projected housing requirement in PPPA area in 2041 is as under:

Projected additional population for 2041	1,02,730
Additional households between 2011 and 2041 @ 4.4 persons per household	7,530
Housing shortage in 2011	3,847
Need for additional dwellings between 2011 & 2041	11,377

(This is excluding the slum areas.)

4.5.1. Urban Renewal

4.5.1.1 Central Town Areas

The Central Town has congested residential and commercial areas, which have high building density on land and high occupancy within buildings. These areas need immediate urban renewal. Refer to map.

4.6 Guidelines for urban renewal

The basic objective of the urban renewal plans are to upgrade the living and working environment by implementing schemes considering the existing physical and socio-economic conditions of the area. The schemes for the urban renewal are to be prepared after a comprehensive study, which should be in the form of a project report and a number of maps and plans. The following sets of plans are considered to be essential to project the existing conditions -

- i. Land Use
- ii. Physical condition of structures
- iii. Facilities and services
- iv. Circulation pattern
- v. Open spaces, park and playgrounds
- vi. Special feature (if any)

The plan proposals for the urban renewal should indicate:

- i. clearance areas and areas to be acquired (This would include subsequent plans for redevelopment of these pockets),
- ii. population distribution (in relation to holding capacity),
- iii. proposed land use,
- iv. proposed circulation system (indicating widening of streets, pedestrian streets, parking areas, access of emergency vehicles),
- v. up gradation of facilities and services,
- vi. the existing Public and Semi-public uses and services like hospitals, dispensaries, colleges, schools, police stations, fire stations, post offices, local government offices, parking etc. to be retained in their present locations and also additional sites required to be indicated in the Urban Renewal Scheme; and
- vii. Recreational areas (indicating totlots, parks, play grounds and other recreational facilities).

Note: Reduced space norms may be adopted for community facilities/ social infrastructure. The concept of Accommodation Reservation i.e. allowing construction of community facilities without counting in FAR may also be applied

The Urban Renewal Plans would be prepared within the framework of the land use of the area as indicated the land use plan. In case of residential areas, the possibilities of mixed use (on ground floor) and street commercial may be explored. Special characteristics and features of the area would be kept in view. As far as possible, the urban renewal project should be self-financing.

CHAPTER 5: TRANSPORTATION

Transportation network of an area plays an important role in the area's economic and socio-cultural life. A well laid out road network can provide answer to many problems of human settlement. The growing demand of circulation space calls for scientific assessment of the problems of movement such as circulation pattern, road capacities, inaccessibility, lack of parking space etc, so that remedial measures could be evolved both for short as well as long terms measures.

Passenger and goods transport movement as well as their related concerns in the city transport sector play a critical role enabling productivity of the city system and promoting the welfare of the city and its region. The present transportation exercise is to evolve a transport system best suited to the unique dimensions of the town and to support the social and economic activities taking place there in.

The required traffic surveys and studies have been carried out to appreciate the traffic and travel characteristics, for identifying issues, constraints and potentials and to work out the most appropriate transport system for the town.

5.1: NETWORK OF ROADS AND TRAFFIC CHARACTERISTICS:

Road Network:

5.2. Overview Of Critical Road

5.2.1 City Road Network

The Pathsala-Patacharkuchi Master Plan-2041 recommends development of a hierarchy based arterial road network system comprising primary arterial, sub-arterial and collector roads. The main functional roads recommended are:

- City Radials/Axials
- Alternative Corridors
- All Purpose Roads in Central Area

No specific road network has been designed as the condition of the present roads need to be taken care of and after a period of five years a fresh plan will be taken up for this alternative network to improve the transportation system.

Only a few stretches which need to be connected has been proposed primarily in this plan. *Refer map* The existing roads.

5.2.2. The Existing Roads

The existing roads are proposed to be upgraded in terms of ROW, capacity and other geometrics. The new roads need to be planned and designed for a higher level of service from their entry into BRMP to their meeting with the CBD orbital Road. Within the core area the roads will lose their characteristics and are to be developed as all-purpose roads. The primary arterial roads have a ROW varying between 15 to 30 m. In addition the city level roads comprise sub-arterial roads (10.5 - 18 m R/W), and collector roads (7.5-10 m R/W).

5.3. Bus Transport Terminals

1 sub-nodal terminal need to be proposed at the NH-31 and town intersection, where all the modes of transport can be organized for a smooth flow into the town areas. The proposal needs to be carried out with the consent of the authorities and a feasibility study to further facilitate it. The sub nodal terminal may be proposed to be developed as multi-use complex, under PPP route.

5.3.1. Local Area Mini Terminals

Every local area (city municipal ward/ new housing development area), as part of Local Area Plans (LAPs) to provide for mini terminal facilities for bus /alternative services serving the area. These terminal facilities could be incorporated as part of the commercial/facilities complex of the Local Area. Hence no separate allocation and reservation of land is made for these terminals. Care to be taken to provide for easy access and exit provisions, convenient bays for them and shelters for the passengers. Such terminals can be provided in the proposed neighbourhood centres.

5.4. Freight Zones And Logistics

5.5. FOOTPATHS:

5.5.1. Pedestrian Facilities

Walking is a predominant mode in the town. The transport system plan promotes and facilitates walking. The main strategies and measures proposed as part of the plan are as under:

- Provision of sidewalks on primary arterials, sub-arterials and collectors on both sides of the road and on at least one side on local roads.

- Cross pedestrian facilities to be provided as per the warrants recommended by Indian Roads Congress.
- Sidewalks on all the major roads to be designed for level of service “C”
- Improvement measures in terms of pedestrian controlled facilities at intersections , grade separators and widening of sidewalls in the Central Areas and belong major corridors .

5.6: PARKING:

5.6.1: Parking Policy – Needs and Dimensions

Every vehicle trip ends in a demand for parking of the vehicle at its trip ends. The parking of vehicles needs extensive and exclusive land area. Otherwise parking would spill over to other use areas like road carriageway and footpaths, open spaces. In turn they affect safety and environmental quality. The escalating demand and varied needs of parking in Pathsala-Patacharkuchi can only be met and organized in the framework of a comprehensive Parking Policy. Parking policy needs to move from ‘non-restrictive’ to ‘restrictive’ policy. ‘Restrictive’ policy would include from banning of parking to restricted provision, regulation and pricing of parking spaces.

5.6.2: Lane Markings and Signage:

- All on-street parking spaces need to be clearly defined by lane markings.
- Adequate and appropriate signage’s to be installed at all places on the street network to identify ‘parking’ and ‘no parking’ areas.
- Off-street parking places identified by signs and distinguishing marks.

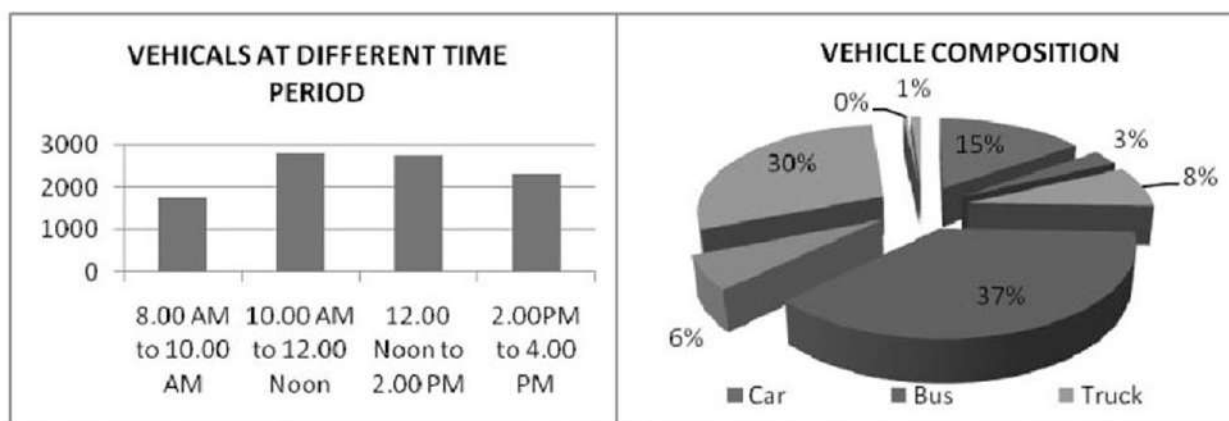
5.7: TRAFFIC SURVEY:

The required traffic surveys and studies have been carried out to appreciate the traffic and travel characteristics, for identifying issues, constraints and potentials and to work out the most appropriate transport system for the town.

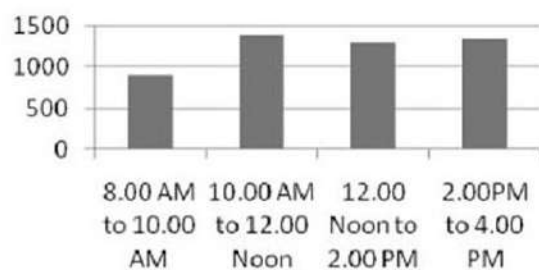
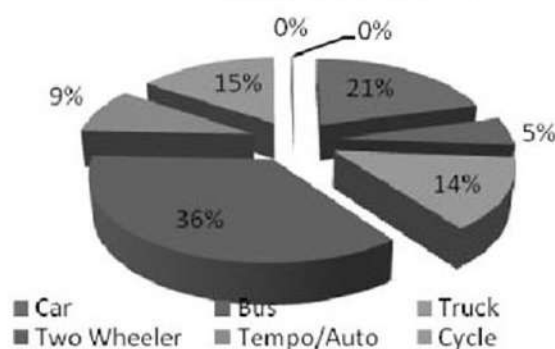
5.7.1: CLASSIFIED TRAFFIC VOLUME SURVEY

Traffic volume surveys have been conducted along the major transport routes and at the major intersections. This had been carried out in order to generate idea about the traffic volume along the major routes and at the major intersections, the peak hour timing and the peak hour traffic and also the total day and the peak hour traffic composition.

Name of Town: PATACHAR KUCHI. Time: 8.00 AM to 4.00 PM						
Mode of Vehicle	Mode of time interval					
	8.00 AM to 10.00 AM	10.00 AM to 12.00 Noon	12.00 Noon to 2.00 PM	2.00PM to 4.00 PM	Grand Total	%
Car	280	391	375	413	1459	15.12
Bus	70	67	61	77	275	2.85
Truck	126	140	221	248	735	7.62
Two Wheeler	636	1160	1025	766	3587	37.17
Tempo/Auto	122	141	167	159	589	6.10
Cycle	501	876	839	632	2848	29.52
Rickshaw	18	10	12	9	49	0.51
Thela	30	25	35	17	107	1.11
Total	1783	2810	2735	2321	9649	100.00



Name of Town: PATACHAR KUCHI.	Name of Road:-Patacharkuchi to Tihu (On NH-31)					
Mode of Vehicle	Mode of time interval					
	8.00 AM to 10.00 AM	10.00 AM to 12.00 Noon	12.00 Noon to 2.00 PM	2.00PM to 4.00 PM	Grand Total	%
Car	227	250	260	290	1027	20.74
Bus	65	67	61	75	268	5.41
Truck	112	133	207	229	681	13.75
Two Wheeler	312	596	450	413	1771	35.77
Tempo/Auto	75	112	126	129	442	8.93
Cycle	121	228	199	199	747	15.09
Rickshaw	3	0	2	2	7	0.14
Thela	2	2	4	0	8	0.16
Total	917	1388	1309	1337	4951	100.00

VEHICLES AT DIFFERENT TIME PERIOD**VEHICLE COMPOSITION**

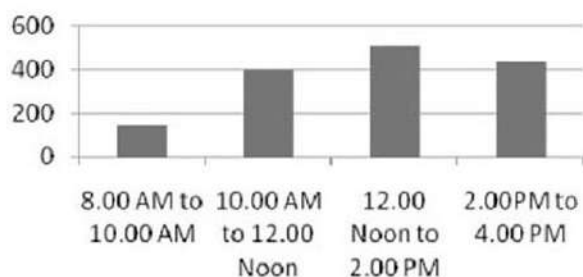
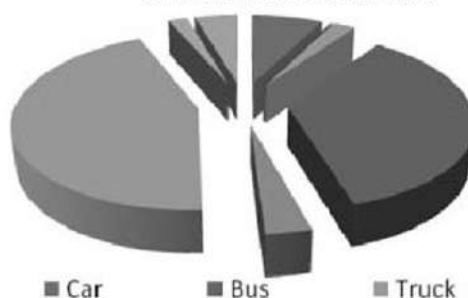
Name of Town:
**PATACHAR
KUCHI.**

Name of Road:-Patacharkuchi town to Bhaluki Road.

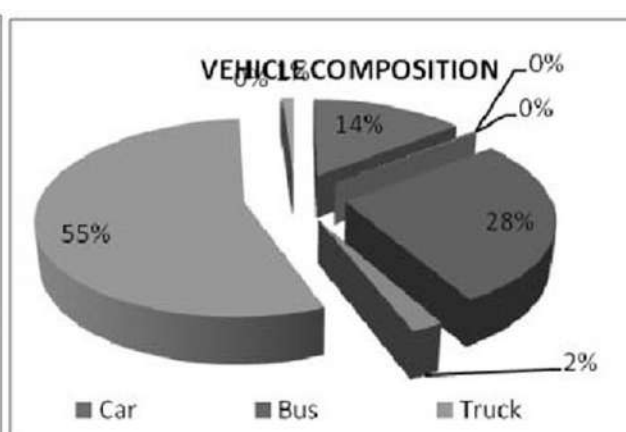
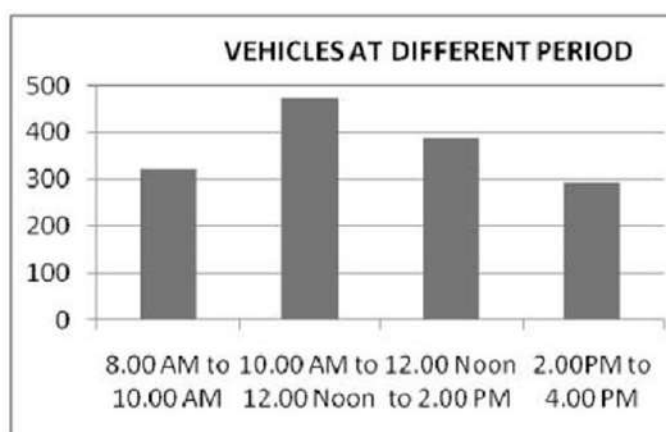
Mode of Vehicle

Mode of time interval

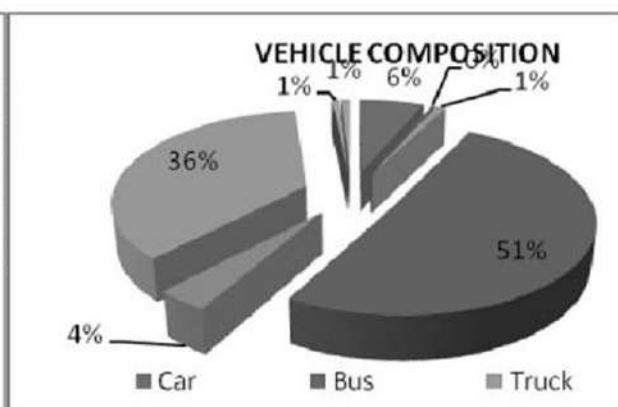
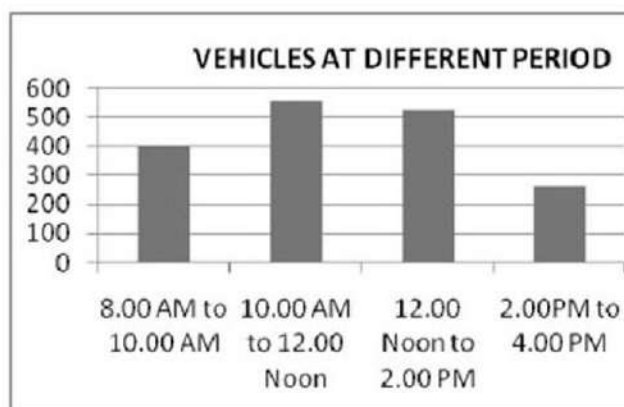
	8.00 AM to 10.00 AM	10.00 AM to 12.00 Noon	12.00 Noon to 2.00 PM	2.00PM to 4.00 PM	Grand Total	%
Car	12	29	32	39	112	7.51
Bus	0	0	0	0	0	0.00
Truck	11	2	10	12	35	2.35
Two Wheeler	40	157	197	140	534	35.81
Tempo/Auto	14	3	14	20	51	3.42
Cycle	40	190	230	202	662	44.40
Rickshaw	12	6	5	7	30	2.01
Thela	17	13	22	15	67	4.49
Total	146	400	510	435	1491	100.00

VEHICLES AT DIFFERENT TIME PERIOD**VEHICLE COMPOSITION**

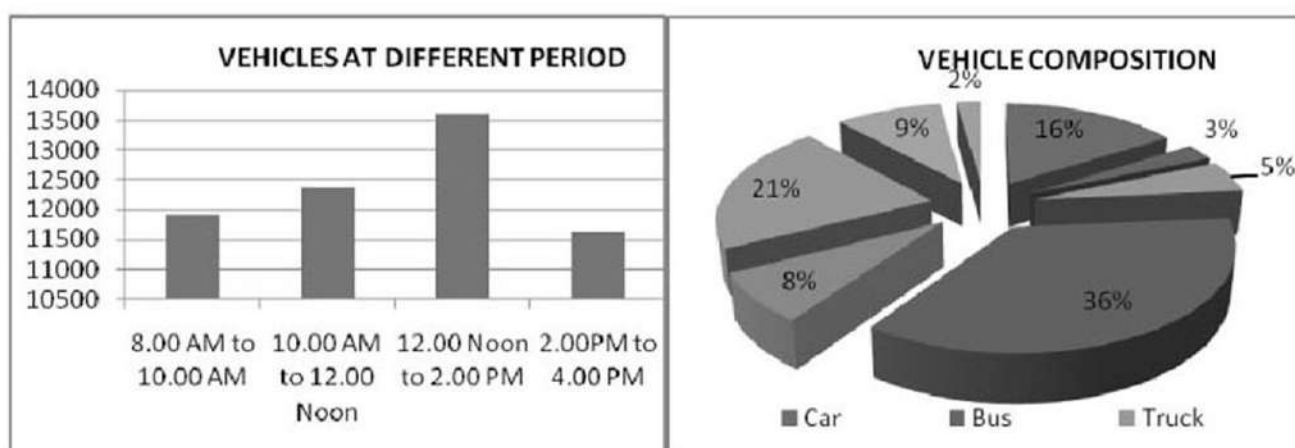
Name of Town: PATACHAR KUCHI.	Name of Road:-Patacharkuchi Link Road.					
Mode of Vehicle	Mode of time interval					
	8.00 AM to 10.00 AM	10.00 AM to 12.00 Noon	12.00 Noon to 2.00 PM	2.00PM to 4.00 PM	Grand Total	%
Car	20	81	63	46	210	14.28
Bus	1	0	0	1	2	0.14
Truck	1	0	0	1	2	0.14
Two Wheeler	103	100	110	90	403	27.40
Tempo/Auto	20	6	5	0	31	2.11
Cycle	167	280	207	153	807	54.86
Rickshaw	0	0	0	0	0	0.00
Thela	7	4	5	0	16	1.09
Total	319	471	390	291	1471	100.00



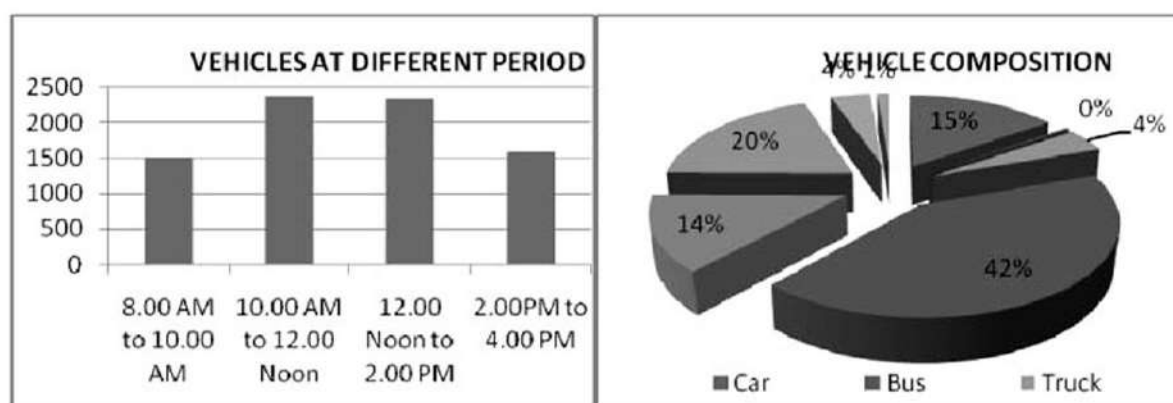
Name of Town: PATACHAR KUCHI.	Name of Road:-Patacharkuchi Jalah Simla Road.					
Mode of Vehicle	Mode of time interval					
	8.00 AM to 10.00 AM	10.00 AM to 12.00 Noon	12.00 Noon to 2.00 PM	2.00PM to 4.00 PM	Grand Total	%
Car	21	31	20	38	110	6.34
Bus	4	0	0	1	5	0.29
Truck	2	5	4	6	17	0.98
Two Wheeler	181	307	268	123	879	50.63
Tempo/Auto	13	20	22	10	65	3.74
Cycle	173	178	203	78	632	36.41
Rickshaw	3	4	5	0	12	0.69
Thela	4	6	4	2	16	0.92
Total	401	551	526	258	1736	100.00



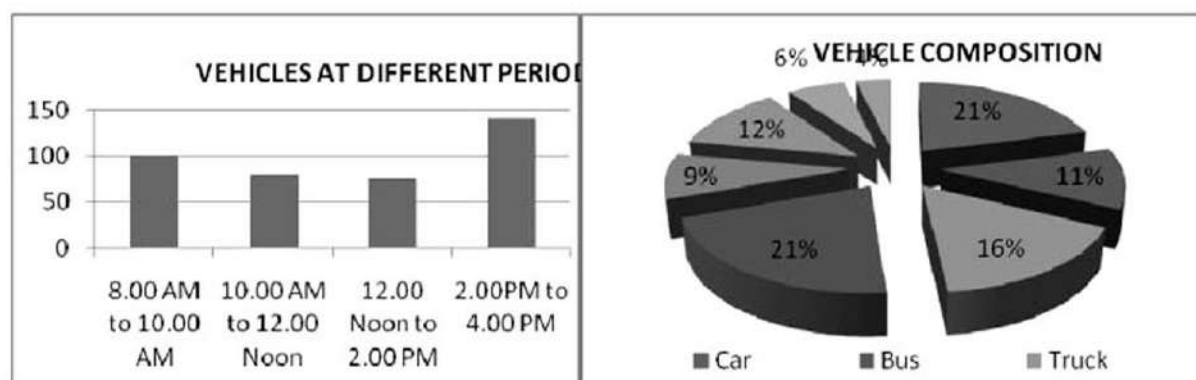
Name of Town: PATHSALA TOWN	Time: 8.00 AM to 4.00 PM					
Mode of Vehicle	Mode of time interval					
	8.00 AM to 10.00 AM	10.00 AM to 12.00 Noon	12.00 Noon to 2.00 PM	2.00PM to 4.00 PM	Grand Total	%
Car	2088	1570	2056	2156	7870	15.89
Bus	387	247	340	335	1309	2.64
Truck	764	601	575	571	2511	5.07
Two Wheeler	3644	4608	5400	4222	17874	36.09
Tempo/Auto	975	1066	914	878	3833	7.74
Cycle	2615	2952	2773	1975	10315	20.82
Rickshaw	1184	1077	1304	1174	4739	9.57
Thela	252	274	243	312	1081	2.18
Total	11909	12395	13605	11623	49532	100.00



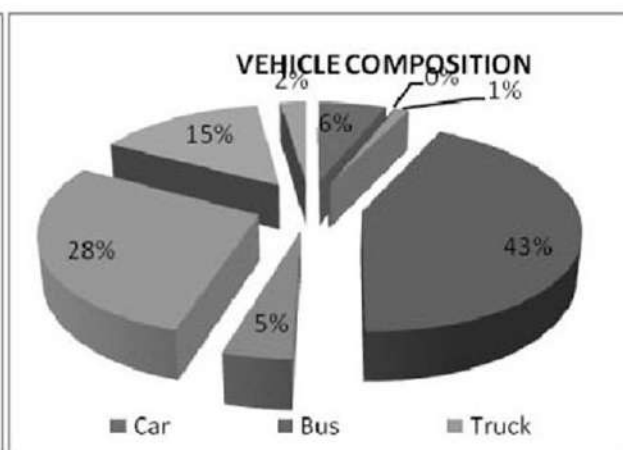
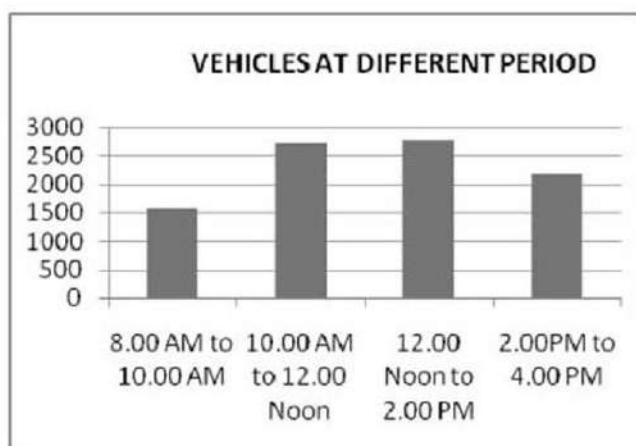
Name of Town: PATHSALA TOWN.	Name of Road:-N.H-31 to Bhutan Road.					
Mode of Vehicle	Mode of time interval				Grand Total	%
	8.00 AM to 10.00 AM	10.00 AM to 12.00 Noon	12.00 Noon to 2.00 PM	2.00PM to 4.00 PM		
Car	248	330	339	257	1174	15.06
Bus	12	4	8	4	28	0.36
Truck	80	89	93	64	326	4.18
Two Wheeler	484	925	1110	765	3284	42.12
Tempo/Auto	255	378	260	152	1045	13.40
Cycle	360	520	383	266	1529	19.61
Rickshaw	62	81	105	64	312	4.00
Thela	12	43	28	15	98	1.26
Total	1513	2370	2326	1587	7796	100.00



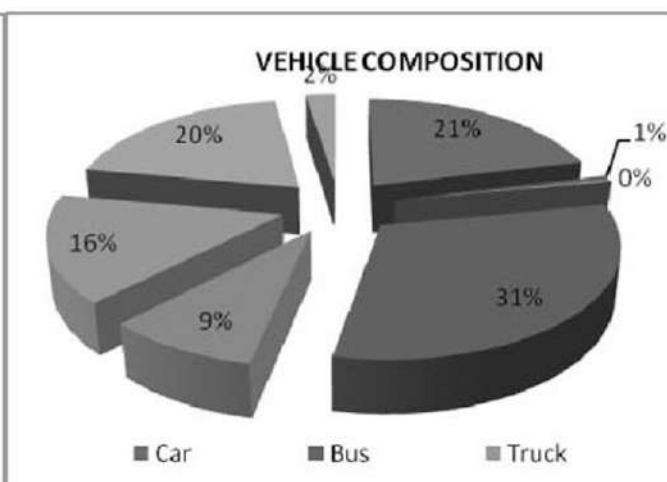
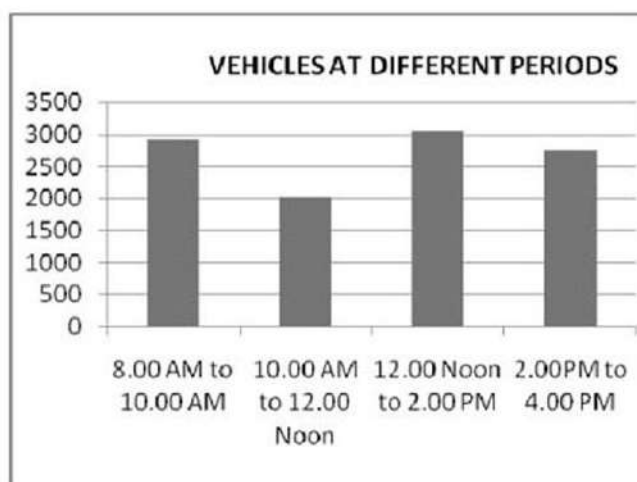
Name of Town: PATHSALA TOWN.		Name of Road:-N.H-31					
Mode of Vehicle	Mode of time interval						
	8.00 AM to 10.00 AM	10.00 AM to 12.00 Noon	12.00 Noon to 2.00 PM	2.00 PM to 4.00 PM	Grand Total		
Car	765	426	575	470	2236	20.98	
Bus	328	240	315	319	1202	11.28	
Truck	574	401	391	363	1729	16.22	
Two Wheeler	805	483	525	426	2239	21.01	
Tempo/Auto	280	204	186	235	905	8.49	
Cycle	504	247	270	278	1299	12.19	
Rickshaw	201	131	167	155	654	6.14	
Thela	100	80	75	140	395	3.71	
Total	3557	2212	2504	2386	10659	100.00	



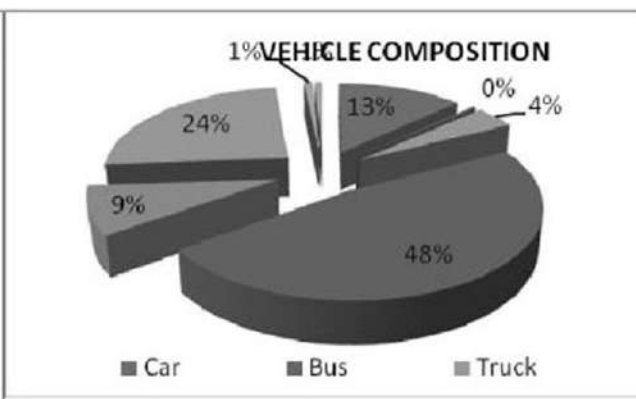
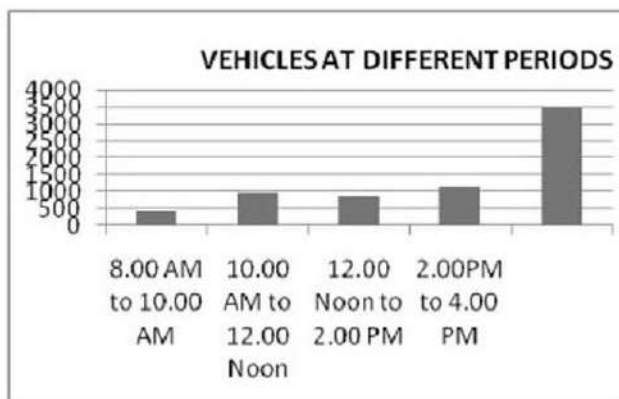
Name of Town: PATHSALA TOWN.			Name of Road:- Station Road.			
Mode of Vehicle	Mode of time interval					
	8.00 AM to 10.00 AM	10.00 AM to 12.00 Noon	12.00 Noon to 2.00 PM	2.00PM to 4.00 PM	Grand Total	%
Car	130	122	177	134	563	6.11
Bus	0	0	0	0	0	0.00
Truck	29	35	24	21	109	1.18
Two Wheeler	617	1130	1240	988	3975	43.11
Tempo/Auto	59	137	119	82	397	4.31
Cycle	488	833	765	514	2600	28.20
Rickshaw	223	406	370	365	1364	14.79
Thela	25	57	60	70	212	2.30
Total	1571	2720	2755	2174	9220	100.00



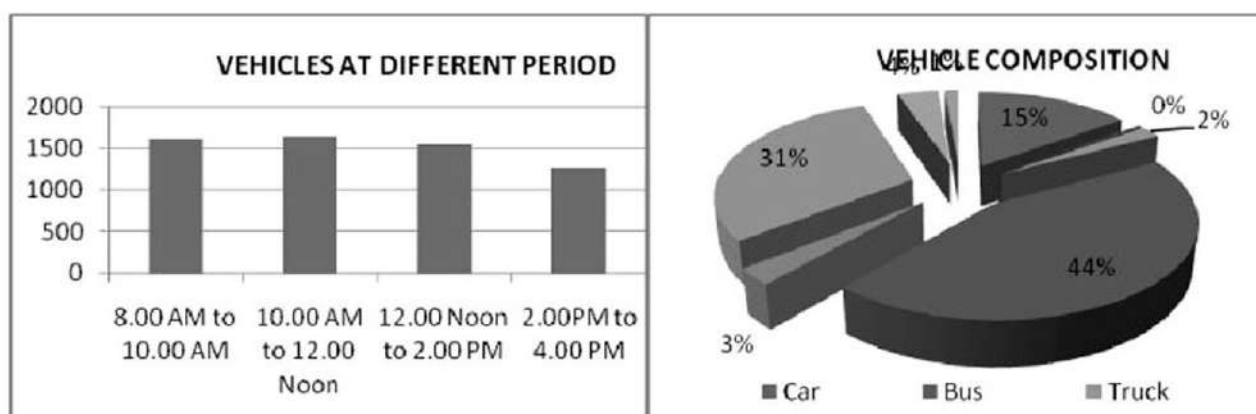
Name of Town: PATHSALA TOWN.	Name of Road: - Anchali Road.					
Mode of Vehicle	Mode of time interval					
	8.00 AM to 10.00 AM	10.00 AM to 12.00 Noon	12.00 Noon to 2.00 PM	2.00PM to 4.00 PM	Grand Total	%
Car	580	363	613	712	2268	21.11
Bus	33	0	12	2	47	0.44
Truck	32	7	3	0	42	0.39
Two Wheeler	787	545	989	1037	3358	31.25
Tempo/Auto	310	266	262	127	965	8.98
Cycle	450	341	559	342	1692	15.75
Rickshaw	642	423	553	494	2112	19.66
Thela	80	85	54	42	261	2.43
Total	2914	2030	3045	2756	10745	100.00



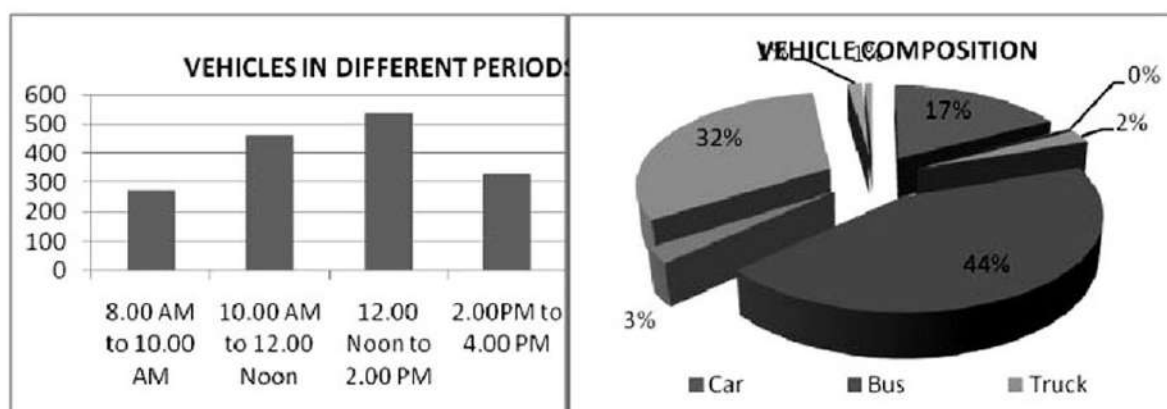
Name of Town: PATHSALA TOWN.			Name of Road: - Main Road (Chandan Nagar Point)			
Mode of Vehicle	Mode of time interval					
	8.00 AM to 10.00 AM	10.00 AM to 12.00 Noon	12.00 Noon to 2.00 PM	2.00PM to 4.00 PM	Grand Total	%
Car	56	108	100	185	449	12.94
Bus	0	3	2	8	13	0.37
Truck	18	23	17	87	145	4.18
Two Wheeler	224	502	510	415	1651	47.59
Tempo/Auto	30	60	34	183	307	8.85
Cycle	140	260	208	237	845	24.36
Rickshaw	0	1	22	11	34	0.98
Thela	8	3	5	9	25	0.72
Total	476	960	898	1135	3469	100.00



Name of Town: PATHSALA TOWN. Name of Road:- Krishna Nagar Road(Highway to College Road)						
Mode of Vehicle	Mode of time internal					
	8.00 AM to 10.00 AM	10.00 AM to 12.00 Noon	12.00 Noon to 2.00 PM	2.00PM to 4.00 PM	Grand Total	%
Car	262	160	160	322	904	14.99
Bus	12	0	3	0	15	0.25
Truck	25	35	34	28	122	2.02
Two Wheeler	615	820	790	441	2666	44.20
Tempo/Auto	30	8	41	93	172	2.85
Cycle	580	585	415	255	1835	30.43
Rickshaw	56	30	75	79	240	3.98
Thela	21	4	18	34	77	1.28
Total	1601	1642	1536	1252	6031	100.00



Name of Town: PATHSALA TOWN.	Name of Road:- N.H.-31 to Bajali College Road.					
Mode of Vehicle	Mode of time internal					
	8.00 AM to 10.00 AM	10.00 AM to 12.00 Noon	12.00 Noon to 2.00 PM	2.00PM to 4.00 PM	Grand Total	%
Car	47	61	92	76	276	17.12
Bus	2	0	0	2	4	0.25
Truck	6	11	13	8	38	2.36
Two Wheeler	112	203	236	150	701	43.49
Tempo/Auto	11	13	12	6	42	2.61
Cycle	93	166	173	83	515	31.95
Rickshaw	0	5	12	6	23	1.43
Thela	6	2	3	2	13	0.81
Total	277	461	541	333	1612	100.00



5.8: Sub – Nodal Terminals

A sub-nodal terminal needs to be proposed at the NH-31 and town intersection for both the towns, where all the modes of transport can be organized for a smooth flow into the town areas. The proposal needs to be carried out with the consent of the authorities and a feasibility study to further facilitate it. The sub nodal terminal may be proposed to be developed as multi-use complex, under PPP route.

5.9: Local Area Mini Terminals

Every local area (city municipal ward/ new housing development area), as part of Local Area Plans (LAPs) to provide for mini terminal facilities for bus /alternative services serving the area. These terminal facilities could be incorporated as part of the commercial/facilities complex of the Local Area. Hence no separate allocation and reservation of land is made for these terminals. Care to be taken to provide for easy access and exit provisions, convenient bays for them and shelters for the passengers. Such terminals can be provided in the proposed neighbourhood centres.

5.10: Improvement of Intersections

The transport system plan includes improvement of intersection geometrics including provision of channelisers, acceleration/deceleration lanes, traffic signs, lighting etc and provision of appropriate traffic control systems. It is recommended that all the major intersections, especially those on the arterial and sub-arterials be signalised and in the next level of improvement be linked and integrated and brought under a central Area Traffic Control scheme (ATCs). Grade Separators/Flyovers may be built based on traffic intensity, site conditions and environmental acceptability.

5.11: Pedestrian Facilities

Walking is a predominant mode in the town. The transport system plan promotes and facilitates walking. The main strategies and measures proposed as part of the plan are as under:

- Provision of sidewalks on primary arterials, sub-arterials and collectors on both sides of the road and on at least one side on local roads.
- Cross pedestrian facilities to be provided as per the warrants recommended by Indian Roads Congress.
- Sidewalks on all the major roads to be designed for level of service “C”
- Improvement measures in terms of pedestrian controlled facilities at intersections, grade separators and widening of sidewalks in the Central Area and along major corridors.

5.12: Parking Policy

5.12.1: Parking Policy – Need and Dimensions

Every vehicle trip ends in a demand for parking of the vehicle at its trip ends. The parking of vehicles needs extensive and exclusive land area. Otherwise parking would spill over to other use areas like road carriageway and footpaths, open spaces. In turn they affect safety and environmental quality.

The escalating demand and varied needs of parking in both the towns can only be met and organized in the framework of a comprehensive Parking Policy. Parking policy needs to move from ‘non-restrictive’

to 'restrictive' policy. 'Restrictive' policy would include from banning of parking to restricted provision, regulation and pricing of parking spaces.

5.12.2: Lane Markings and Signage

- All on-street parking spaces need to be clearly defined by lane markings.
- Adequate and appropriate signage's to be installed at all places on the street network to identify 'parking' and 'no parking' areas.
- Off-street parking places identified by signs and distinguishing marks.

5.13: Planning for Goods Movement

Planning for goods movement in an urban area includes three components. They are:

- Planning for goods generating activities like wholesale markets, major industries, warehousing and storage areas, etc.
- Planning for movement of goods modes and
- Planning for parking and servicing of goods vehicle.

CHAPTER 6: INFRASTRUCTURE, PUBLIC UTILITIES & SERVICES

6.1: PHYSICAL INFRASTRUCTURES:

6.1.1: PRESENT WATER SUPPLY STATUS:

Main source of water is ring well and tube well. Assam Urban Water Supply and Sewerage Board also provides drinking water in the town but due to technical problems supply is not very steady. 7 out of 10 wards have been connected for water supply and the supply for the remaining wards is planned within the next few years.

As per house hold survey conducted by T&CP District Office ,Barpeta in 2013, different sources of water supply in the planning area is given as in Table below.

Water Supply Sources in Pathsala-Patacharkuchi Master Plan area

Sl.No.	Source of drinking water	Total household households	No. of household served	P.C of served
1	Piped water supply	4300	2627	61%
2	Tube well	7287	5500	75%
3	Well	90	90	100%
4	Others (like pond etc.)	Nil	Nil	Nil

Source: Socio Economic survey, T&CP, Dist. Office, Barpeta

It is observed that 61% of total population of the master plan is served by piped water supply. Most of the population is dependent on wells & tubewells etc. as their sources of water supply.

6.1.2: DRAINAGE SYSTEM:

EXISTING DRAINAGE SYSTEM:

The existing drainage network of Pathsala-Patacharkuchi town is mostly earthen in nature and is in need of improvement. Main market area and some residential areas have RCC drains but due to lack of the total network these drains get clogged due to blockage in the earthen drains. The town does not have a sewerage system and most of the treatment is through septic tank. Effluent from the septic tanks is directly discharged in to roadside drains.

6.1.3: SANITATION:

In respect to sanitation, the sanitary latrine services mainly covers 5674 numbers Of household, out of 15.817 numbers of total household. That means it covers about 45% of the household.

6.1.4: SEWERAGE NETWORK:

EXISTING SEWERAGE SYSTEM:

Presently the Pathsala-Patacharkuchi MB does not have any integrated sewerage system There are generally septic tanks in the municipal boundary. The effluent is released untreated into the nearby drains and low-lying areas. Similar is the case of industrial wastewater. In case of septic tanks, the soak pits are becoming non-functional in many areas because of high sub-soil water table within a short span of time.

Recommendations:

- Proper schemes should be brought forward by the authorities to improve the situation and system of drainage and sewerage in the Pathsala-Patacharkuchi MP area.
- The encroachments on existing natural drainage system, which is the main reason for the blockage, should be stopped.
- Existing manholes of drain are inadequate; more manholes and inlet are required for the quick disposal of silt and stagnated water. The size of the inlet holes and their position need to be redesigned.
- Silt pit of proper size should be constructed in suitable areas and provision of periodical cleaning the silt pit should be done to avoid blockage in the drainage system.
- Effective garbage collection system (including domestic and other type of garbage) to be in place so that this does not block the drainage channels.

6.1.5: SOLID WASTE MANAGEMENT:

Presently important sources of solid waste generation are (i) Residential areas including slum habitations (ii) Fruit and vegetable market (iii) Hotels and restaurants (iv) Hospitals (v) Drains de-silting (vi) Commercial & Industrial wastes from these areas. It is therefore recommended that the municipal authority looks for proper landfill sites and then in collaboration with the town and country planning dept, a suitable sustainable plan is further prepared to serve the present and the future needs of the area.

Recommendations:

1. Solid waste open burning .
2. Solid waste sanitary land fills
3. Incineration method.
4. Composting process .
5. Disposal by ploughing into the field .
6. Disposal by hog feeding .

6.1.6: ELECTRICITY:**33/KV SUBSTATION UNDER LAR, APDCL**

Name of 33/11KV S/S	No. of Transformer	Transformer Capacity (MVA rating)	Total Capacity (MVA)
Pathsala	3	3x5MVA	15 MVA
Patacharkuchi	2	2x5MVA	10 MVA

6.2: SOCIAL INFRASTRUCTURES:

6.2.1: EDUCATION:

The Education in the State is classified in the following categories:

Table : System of Education in the State

Elementary Education	Age 6-14 years	Classes I-VIII
<ul style="list-style-type: none"> • Primary • Upper Primary 		
Secondary Education	Age 14-16 years	Classes IX-X
Higher Secondary	Age 17-18 years	Classes XI-XII
Higher Education		
<ul style="list-style-type: none"> • University • Institutes of National Importance • Degree Colleges 		
Technical and Vocational Education		
Vocational Institutes		

Source: Economic Survey of Assam 2003-04.

There are a few educational schools and colleges and one university in Pathsala town. A few examples are- Jnanpith Uchcha Madhyamik Vidyalaya, Bajali girls high school, Anchalik high school, Choukhuty high school, P.C Prabha girls high school, Titka high school, Bhaluki high school, Patacharkuchi vidyapith, Nirmal Haloi college, Sankardev sisu vidyaniketan, Apniph Academy, Bhattadev University, Krishna Kanta Handique college, Vivekananda Academy, Anandaram Boruah Academy etc.

The following are the informations of education institutions regarding Pathsala –Patacharkuch Master Plan.

SECTOR	TYPE OF INSTITUTION	NO. OF INSTITUTION		NO. OF STUDENTS/INTAKE	
		PROVINCIAL	PRIVATE	PROVINCIAL	PRIVATE
SECONDARY	HIGH SCHOOL	18	15	1275	5042
	HIGHER SECONDARY SCHOOL	4	3	2146	1105
	JR. COLLEGE				
HIGHER EDUCATION	DEGREE COLLEGE	2		1421	
	TECHNICAL & VOCATIONAL INSTITUTES				
	UNIVERSITY				
	OTHERS	1			

6.2.2: HEALTH:

Hospitals and other health care facilities are really very important for Master plan area. The Norms and Standards for provision of Health Infrastructure in urban areas adopted for Pathsala-Patacharkuchi MP-2041 are given in Table. This is worked out to provide for 5 beds per 1,000 populations and also to result in a balanced distribution of health facilities throughout the city.

Table : Planning Norms and Standards for future provision of Health Infrastructure

Sl. No.	Category	Population Served	Hierarchy	Planning Norms and Standards	
				Population /Unit	Plot Area
1	General Referral Hospital (500 beds)	5 Lakh	District	1 for 2.5 lakh	6.0 ha
2	Intermediate Hospital A (200 beds)	1.0 lakh	Community	1.0 lakh	3.7 ha
3	Intermediate Hospital B (80 beds)	1.0 lakh	Community	1.0 lakh	1.0 ha
4	Nursing Homes, Child Welfare, Maternity Centre, Polyclinics	1.0 lakh	Community	0.45 lakh to 1 lakh	0.2 to 0.3 ha
5	Dispensary	0.15 lakh	Neighbourhood	0.15 lakh	0.08 to 0.12 ha
6	Medical College		City Level	Total City	15.0 ha
7	Speciality Hospital – City Level		City Level	Total City	8.0 ha

Source : Master plan Guwahati, GMDA

The following table has been cited of Health Institution of Pathsala-Patacharkuchi Master Plan area.

Table: Heath Institutions of Pathsala-Patacharkuchi MP area

Name of Health Institution	No.	Doctors	Tutors	G.N.M	A.N.M	Pharmacist	Vaccinator	Health Visito	Sanitary Inspector	Other Medical Persons
Medical college & hospital	0	0	0	0	0	0	0	0	0	0
Civil Hosspital	1	18	0	11	4	3	0	1	0	59
CHC	0	0	0	0	0	0	1	0	0	0
BPHC	1	4	0	0	4	2	1	2	1	16
Mini PHC	4	8	0	4	36	4	4	0	0	19
Dispensary	0	0	0	0	0	0	0	0	0	0
Sub Centre	16	1	0	0	33	0	0	0	0	14
Urban Centre	0	0	0	0	0	0	0	0	0	0

(Source: Nityananda BPHC, Barpeta)

6.2.3. Recreation and Sports:

Although Pathsala-Patacharkuchi MP areas hves a few hectares of eco-sensitive area like the some farm lands and open grounds, but a very few developed parks and playgrounds are available. Based on existing land use survey, presently only 1 ha area is under developed parks and playgrounds.

Hence civic bodes need to identify and create and also develop the open spaces into organized spaces like parks and playgrounds. The main drawback for not being able to locate a specific area is for all being private lands. So if the space cannot be acquired for the purpose for some reasons , this way keeps flexibility.

Moreover one community centre and neighbourhood play areas needs to be develop after consultaion with the residents.

There is One multiplex of 370 Sitting Capacity in Pathsala MB. But seeing the growing demand of movie lovers, a state of the art cinema hall needs to be thought for.

6.2.4. Police

Presently, there is 1 Police Station and 1 no. of Police Outposts in Pathsala-Patacharkuchi MP area. The one existing jail, is about 36 kms from the town in Barpeta.

Provision of police out posts needs to be incorporated at each of the villages added under the main police station for a regulated and crime free area.

6.2.5. Fire

Fire Services are needed for protecting people from fire hazards, building collapses, and other unforeseen emergencies. At present, there is 1 Fire Station in Pathsala-Patacharkuchi MP area.

Now that the planning area has increased a need for further 2 fire sub-station within the planning area needs to be accommodated.

6.2.6. Postal Services

The town has a 2 post office and a few sub-post office in PPMP area. Courier services has come up recently in the town and trending at a large pace.

Hence the PPMP recommends Post Office Counter without delivery (At Local Shopping Centre) for a population of 10,000 to 15,000 on an area of 60 sq.m~ 85 sq.m.

6.2.7. Telecommunication

Pathsala-Patacharkuchi MP area have also two (2) no. of Telephone Exchange.

6.2.8. Distributive facilities

Distributive Facilities include Milk Distribution, LPG Storage and Distribution and Petrol Pumps.

Norms and Standards and Provision

Planning Norms for Milk distribution and LPG storage are given in Table

Table: Planning Norms and Standards for Distributive Facilities

S.No.	Category	Planning Norms and Standards
1.	Milk Booth/Milk and Fruit and Vegetable Booth	One per 5,000 population (in residential developments)
2.	LPG Godown including Booking Office.	3 LPG Godowns per 1 lakh population in facility centres.

6.2.9. Cremation and Burial Grounds

At present there are 2 cremation grounds and a few no. of burial ground in Pathsala and Patacharkuchi municipal area.

CHAPTER 7. ENVIRONMENT AND CITY BEAUTIFICATION PLAN

7.1. Description .

Environmental and City beautification Plan is a fundamental purpose of urban design at this time .In recent years , cities shows increasing sign of environmental problems due to the negative impacts of urban activities .The degradation and depletion of natural resources , climate change pressure on green areas have become major concern for cities. An extremely important function of an urban ecosystem is to provide healthy and sustainable environments for both natural system and communities .

For Pathsala- Patacharkuchi Master Plan Area , Environment and City beautification could be describe as a process of making visual improvements in the planning area .This is often involves painting trees , shrubbery and other greenery . It may involve decorative or historic main street development. Beautification is a key aspect of community development and it can be an easy way to bring people together .The most important factors for making human life more pleasant are "creating peace , beautifying the spaces , reducing the pollution and regulating the urban graphics and visual arts, besides protecting the society against psychological harms. It is important for people's good health that community they live in is not only clean and free from rubbish , but that is a comfortable and pleasant place in the other way.

There are a few water bodies around Pathsala- Patacharkuchi Master Plan Area like Kaldia, pahumara river , Bikhannala jan , etc. Manas National Park and satras are located at a few distances from Pathsala- Patacharkuchi Maser Plan Areas .

7.2. Plan/Measures For Protection And Conservation Of Environmentally - friendly Zone

The concept of eco- sensitive zone is an initiative by Government of India to advocate sustainable development apace with the conservation of natural heritage . The Ministry of Environment and Forests has come out to spawn Eco - sensitive Zones around these protected areas. Environmental protection is the practice of protecting the natural environment by individuals, organizations , and Government .Its objectives are to Conserve natural environment and where possible, to repair damage and reserve trend.

KEY POINT FOR PROTECTION AND CONSERVATION OF THE ENVIRONMENTALLY-FRIENDLY ZONE OF BRMPA.

1. Reduce , reuse and recycle .
2. volunteer for clean-up in own community.
3. Educating people.

4. Choosing sustainable.
5. Planting Trees.
6. Safeguarding biodiversity.
7. Maintaining ecosystem balance.
8. Maintaining water quality.
9. Conserving natural resources.

7.2.1. Heritage Conservation and Tourism

Heritage Conservation:

Pathsala- Patacharkuchi and its surrounding area are rich in cultural and historical heritage. There are a number of important archaeological and architectural sites of historical importance. Strategy for Conservation Built heritage of these places needs to be protected, and nurtured and passed on to the coming generations. For this purpose, a conservation committee (CC) may be established by the administration. The CC shall prepare a list of Heritage sites/buildings based on the following criteria:

- i) The age of the building;
- ii) Its special value for architectural or cultural reasons or historical periods
- iii) Its relevance to history
- iv) Its association with a well-known character or event
- v) Its value as part of a group of buildings
- vi) The uniqueness of the building or any object or structures fixed to the building or forming part of the land and comprised within the cartilage of the building. Also refer Section 13.5.

Yatra and Mobile Theatre - A cultural Revolution in Pathsala:

The kind of cultural revivalism that spurted in the 1950s at pathsala had a splendid impression over the common public and they made every possible endeavour for the upliftment of this cultural tradition. Along with this social spirit, the emergence of Pathsala as a semi- urban centre of both commercial trading and cultural milieu favoured rediscovering of a new means of survival for amateur artists of Yatra who were mainly marginal farmers and who could earn a little from their dramatic profession. After India's independence ,Pathsala became a centre of Yatras and around fifteen to twenty yatra groups were formed in and around Bajali Sub Division.

The Adda culture of yatra and amateur artist's of the town gave a new dimension to the performing art form and formation of Mobile theatre. Thus Achyut Lahkar founded the first mobile theatre in Assam, the famous Nataraj Theatre in Assam, on october 2-1963 at Pathsala.

While Kalagura Bishnu prasad Rabha, Dr. Krishnakanta Lahkar were the patrons, the responsibility of directing the dramas .

The primary objectives of Achyut Lahka's mobile theatre was to turn theatre into a business venture and earn profit. Thousands of people are economically engaged with the Theatre groups.

Mobile Theatre Groups From Pathsala.

- 1) Nataraj
- 2) Mancharupa
- 3) Assam Star
- 4) Kohinoor
- 5) Aradhana
- 6) Awahan
- 7) Anirban
- 8) Chitrlekha
- 9) Kalpataru
- 10) Indrani
- 11) Natasurya Bishnujoti
- 12) Pallavi
- 13) Rajmukut Parihareswar
- 14) Indrajit



Mobile Theatre, Pathsalā

Tourisms

Major Tourist Attractions in and around **Pathsalā- Patacharkuchi** is

1. Asia's 2nd largest and 207 years old Banyan tree located at village Jalikhata .
2. Dubi Parihareswar Devalaya, located at village Dubi, 4km south of Pathsalā. The Goddess Durga of this temple was donated by famous Ahom king Siva sinha . The famous Dance form 'Devadashi Nritya' is believed to have originated here.
3. Satras located at various locations within the district.



Asias 2nd largest Banyan Tree located at village Jalikhata.



Parihareshwar Devalaya, located at village Dubi.

Hence the Assam Tourism should aim to position tourism as an engine of economic growth and to harness its multiplier effects for employment generation and economic development around the planning area.

- For this to happen infrastructure at local level needs to be improved , as this head in interlinked with the other provisions of the master plan All infrastructure connected with tourism such as good roads, hotels and safari resorts, and information support services needs to be developed.
- Basic amenities like clean public toilets, easily accessible telecommunication services, tourist information centres, banks and currency exchange centres, food courts and restraints, hotels and lodges etc. among other services to be provided.
- Quality Hotels, recreation and shopping centres, local transportation, taxi services etc.
- Development and maintenance of the tourist destinations.
- Developing the handicraft and handloom haats.

Environmental Planning .

Working out ahead of time where schools, playing fields ,houses , shops and other building and facilities will be build in city or town is called environmental planning. A good planning proposal for PPMP Area may be provided for ----

1. Areas such as roadside reserves , playgrounds , gardens and parks which can be made more attractive by planting trees shrubs and grass .
2. Plenty of good places to play and exercise .
3. Shady places in which to sit and talk .
4. Shops , public toilets , health centres and other important facilities which are easy to reach .
5. Roads , footpaths and street lighting which allow people to get around the community easily and safely.
6. Water and power supplies to every house and public safely .
7. Sewage and rubbish disposal systems which will meet the community's requirements .

BENIFITS OF ENVIRONMENTAL PLANNING

- O. A clean and healthy environment .
- O. A nice , pleasant place where to live healthier people .
- O. Plenty of places to play and exercise .

7.3. CITY BEAUTIFICATION PLAN/PROPOSAL .

7.3.1. Road Side Plantation .

Under severe climatic conditions, selected roadside trees can form wind breaks and shelter belt to protect crops, and help to reduce climatic excesses and soil erosion. They can restore some ecological diversity to areas of agricultural monotony.

For Pathsala- Patacharkuchi MP. area , The spacing and arrangements of the trees should be such that they do not create any obstruction in the movement of traffic. The general rules and or guideline for spacing and location of trees are as follows.

1. The spacing between two trees in a row along the road should be within 9m to 12m.
2. The trees should be planted at least 12 m apart from the centre of the carriageway.
3. In the case of water logged area , the trees should be planted on sufficient high ground.
4. Trees are planted both side of the road .
5. The trees should be planted in such a way that gives better shade on the carriageway through the year .That's why staggered way is most preferable for the planting of trees on road side.

7.3.2. Urban Agriculture And Urban Forestry.

Growing the Urban forest , a stated goal of many municipalities often occurs through programs targeting the planting and protection of trees on private residential property . At the same time , backward agriculture is gaining in popularity with the support of municipalities , NGOs etc , while an extensive tree canopy has numerous ecological , social and economic benefits , it also has the potential to shade out other forms of vegetation .

These project will explore the tensions between Urban forest and backward agriculture in Pathsala- Patacharkuchi Master Plan Areas by -----

1. Focusing on tree and food crops .
2. Mapping yard- level location of trees and other agricultural product and linking these datas to large scale patterns using high resolution imagery.

URABAN AGRICULTURE

Urban agriculture can contribute to minimizing the effect of climate change by , at the same time, improving quality of life in Urban areas .In order to do so most effectively land use and special planning are crucial, so as to obtain and maintain a supportive green infrastructure .

For, the scope of urban agriculture , thereby is to establish food production sites within the Master Plan Area as follows ----

- O. Indoor agriculture .
- O. Vertical farming .
- O. Rooftop production .
- O. Edible walls.
- O. Edible landscape.
- O. School garden.
- O. Community gardens.

URBAN FORESTRY

Urban forest have several environmental benefits . Trees reduces air pollution . Urban forestry provides the most effective air pollution measure for any city .It is the care and management of single trees and tree population in urban setting for the purpose of urban environment .The concept of urban forestry, which advocates the role of trees as a critical part of urban structure , was developed to addresses the issue of impact on forestry by urbanization . Aside from the beautification of the urban environment , they offer physiological , sociological and economic benefits towards society.

For Pathsala- Patacharkuchi urban area , urban forestry comprises all green elements , such as ---

- o. Street trees and road plantation .
- o. Public green areas , such as parks , gardens etc.
- o. Semi private space , such as green space in residential areas and industrial parks.
- o. Natural forests under urban influence , such as natural reserves etc.

Five steps to meet the goals and facilitate a successful urban forestry process-

1. Form a team .
2. Analyze the current condition .
3. Engage the community .
4. Create the plan .
5. Implementation.

7.3.3. Public Rain Water Harvesting Scheme .

Rain Water Harvesting can be defined as activity of direct collection of rain water and storage of rain water as well as other activities aimed at harvesting and conserving surface water and ground water, prevention of loss aiming at most efficient utilization of the rain water towards best use for the humanity .

THE ENVIRONMENTAL BENEFITS OF RAIN WATER HARVESTING SCHEME.

- > Rain Water Harvesting can reduce storm water runoff from a property .
- > By reducing storm water runoff , rain water harvesting can reduce a storm's peak flow volume and velocity in local creeks , streams and rivers , thereby reducing the potential for streambank erosion.
- > It is an alternative supply during water restrictions .

SURFACE RUNOFF HARVESTING

In urban areas , rain water flows away as surface runoff . This runoff can be caught and used for recharging aquifers by adopting appropriate methods.

ROOFTOP RAIN WATER HARVESTING

It is a system of catching rainwater where it falls. It can either be stored in a tank or diverted to an artificial recharge system .This method is less expensive and very useful ,if implemented correctly , helps in augmenting the ground water level of the area.

RAIN WATER HARVESTING SCHEME FOR PATHSALA - PATACHARKUCHI MASTER PLAN AREA.

There are no any public rain water harvesting scheme for Pathsala --Patacharkuchi Master Plan Area. The rain water harvesting and conservation technique may be successfully execute at the area , as many of the area get effected during rainy season. The main objectives of the schemes are as follows.

1. Augment the ground water recharge through surplus water available in the area.
2. To arrest the rate of decline of ground water level .
3. To monitor the rate of decline of ground water levels .
4. To develop the technology for artificial recharge, specially in Pathsala - Patacharkuchi Urban area and also quantity the volume of recharged water .
5. To create awareness in the society for proper management of ground water resources .

For public rain water harvesting scheme , salient feature of artificial recharge to ground are as under.

1. Average annual rainfall to calculate.
2. Total area to be taken .
3. Depth of water level to calculate .
4. Water availability for recharge .
5. Expected recharge .

7.3.4. Development Of Parks And Recreational Spaces.

Both the town are facing Lack of recreational and amusement facilities. There are no any significant park and recreational spaces.

Azad bhawan and Swahid bhawan played a very important role as a recreational spaces in Pathsala Municipal area. playground facilities must be re started in this place.



Azad Bhavan & Swahid Bhavan

Preserve and enhance parks and recreational spaces within PPMP Area , to meet active and passive recreational needs , improve environmental quality , enhance the identity and character of district neighbourhoods and provide visual beauty.

The policy may be taken on how existing gaps might be closed and how new facilities can be adopted to meet future needs like recreational and athletic facilities , including play field , tennis court , swimming pool , and other open areas for other sports activities .

Provide for the continuing maintenance , renovation , and upgrading of the parks and recreational facilities to prevent their deterioration and ensure that they continue to meet community needs .

Steps might be taken as follows --

1. RESIDENTIAL YARD.

Recognize the value of Residential yards as a component of city's open space system and discourage increased coverage of such areas .

2. COMMON OPEN SPACE IN NEW DEVELOPMENT.

Provide incentives for new and rehabilitated building to include green roof , landscaped open area and other common open space areas that provide visual relief and aesthetic balance .

3. TRAFIC AND RECREATIONAL PLANNING.

Various traffic congestion , it is observed around recreational facilities when major events are held , because of the concentration of private vehicles before and after the tournaments . Recreational facilities should be well served by public transportation.

7.3.5. Identification And Demarcation Of Multi- purpose Open Spaces For Sports, Cultural Functions, Fair, Circus etc.

Open space are the placement of major civic and public gathering , ceremonial spaces for recreation and leisure. These places are an expression of the public culture.

The purpose of identity and demarcation of multipurpose open space required by-----

- a/ Identify the current and future needs of Pathsala -Patacharkuchi Master Plan Area .
- b/ Review and analyse the open space and indoor facilities.
- c/ Recommend local provision standards for all type of open spaces.

Open space can serve a number of functions within the urban fabric town. For example, the provision for play and informal recreation , a landscaping buffer within and between the built environment and a habitat for the promotion of Biodiversity can all provide valuable amenities for residents and visitors .

Each type of open space has various benefits , depending on its type such as allotment for individuals to grow their own produce, play areas for children, playing pitches for children etc. Open spaces can

additionally perform a secondary function , such as cultural functions , circus , fairs in addition to facilitating sports and recreation.

A balance is needed between different type of open space in order to meet the full spectrum of local needs as follows -

1. Indoor sports facilities - All facilities should be built .
2. Provision for children and young people. - Within an equipped playground , there should be a range of at least five different type of well maintained pieces of equipment .
3. Outdoor sports facilities - Clean litter free sports facilities should be provided with appropriate , well drained , well maintained facilities .

The main purpose behind creating an open or public space is that people can gather here during trouble or any event . Also these should centrally locate , so people could access them from anywhere , plus they represent the city's history , culture and become iconic sites of cities .

NEW PUBLIC SPACES -

The growth of community - led project is creating public spaces that has a very local and specific uses related to local needs and physical qualities and feature of their local environment . The hosting of events on open spaces has become increasingly popular with local providers . The number of events on city's premier sites , mainly district or sports level events , Bihu function , Shree Krishna Rash festival , Book Fair , Trade fair on these open spaces , as well as ample opportunities for such events on some of the smaller local open spaces in the Municipal areas.

7.3.6. Beautification Of Major Transit Zones.

MAJOR JUNCTIONS

1. N.H. 31 junction is located at the heart of both of the town . Pathsala has a four leg intersection with arm leading towards Guwahati on east , Bongaigaon on west Bhutan on the north and Pathsala town on the south . Patacharkuchi has 3 leg intersection on N.H 31.It has lot of delay and queue length during office hours . The major objective of this study is to give an alternative and long term solution for the improvement of the present condition by concept of " congestion Free Corridor " .

OBJECTIVES ARE-

1. To provide higher level service .
2. To control speed limit .

3. To arrive with a best proposal to reduce traffic congestion , delay and queue length.
4. For other junctions like N.H. 31 approach , Railway crossing approach , a beautification plan / proposal may be taken for signal free corridor.

EXISTING 4 LEG JUNCTION

IN N.H. 31 ,Pathsala



BUS DEPOT.

For over hauling the Government Bus Stand , it will not only be rejuvenated as a hub for long distance and short distance buses but will also offer a slew of facilities to passengers . The existing bus stands, situated at the heart of both Town , does not meet the needs and facilities of passengers . The current station of bus depot is neither capable of fulfilling the needs of increasing uses nor clarity of functions / aesthetic qualities .

The purpose is to design a functional and social transportation complex in Pathsala and Patacharkuchi , by using the potential of land and realize that its nature as a landmark. The terminus will feature a complex transit structure . It will be connected to the nearby Railway station . The structure will feature offices of transport companies , service centre of heavy vehicle manufacturers , shops offering goods and services to bus / truck drivers need and warehouses and godowns for transporters to unload goods and

distribute those using smaller trucks . It will be occupied with WI-FI so that transport companies can keep on eye on their vehicles using GPS.

RAILWAY STATION

As Indian Railway has been working towards beautification of Railway station are being beautified with wall painting and beautiful murals .

Proposal can be made for plantation and parking of vehicles .Areas around Pathsala and Nij Sarih Railway station could be clean and beautified with colourful cultural and natural painting. Keeping modernity and traditionality in mind the team of local artist could bought to built structures depending local culture and festivals at Railway Station .

MARKET ZONES.

1. Car free zone with only pedestrian movement inside on central market area .
2. Proper vending zone.
3. Cleaning of market places .
4. Removal of unauthorized road side kiosks.
5. proper drainage .

7.3.7. Beautification Of Signage And Street Furniture.

SIGNAGE.

Signage system play a number of important role . They provide information and direction for people to find their way around a site , help to maintain the site's image and coherence and encourage learning.

Besides conventional signboards , maps , kiosks and other elements may be use as signs and placing signs at other site amenities like benches , cafes and intersections can help to create mini destinations in the open space.

STEPS

1. Regulatory signs for traffic control.
2. Warning signs for existing and potentially dangerous conditions for bridge , crossing etc.
3. Information signs to inform visitors about the sites .
4. Educational signs to get people interested in unique features of sites .
5. Clearly visible and directional sign should be visible from a distance of at least 20 meter for clear visibility.

CHAPTER 8: LANDUSE PLAN

8.1: LAND USE ZONING PLAN:

Land use Distribution is defined as the spatial distribution of activities and functions in setting. The study of land use distribution is of prime importance for the understanding of a city structure and its growth pattern.

The land use patterns of a town also reflect the social, economic and other aspects of the city. Landuse is one important planning tool related to the allocation of land for any landuse for the control of physical development. Landuse should be properly emphasized for the balanced development of the city and minimum friction. For the planned physical development of the city, zoning is done through which, we divide the city in to various landuse on the basis of area required by them. Landuse plan means the plan indicating all the zones for any one of the specific dominant uses of urban functions.

Land use planning practices evolved as an attempt to overcome the urban settlement challenges. It engages citizens and policy-makers to plan for development with more intention, foresight, and community focus.

8.2: EXISTING & PROPOSED LAND USE:

Land use Distribution is defined as the spatial distribution of activities and functions in setting. The study of land use distribution is of prime importance for the understanding of a city structure and its growth pattern.

The land use patterns of a town also reflect the social, economic and other aspects of the city. Landuse is one important planning tool related to the allocation of land for any landuse for the control of physical development. Landuse should be properly emphasized for the balanced development of the city and minimum friction. For the planned physical development of the city, zoning is done through which, we divide the city in to various landuse on the basis of area required by them. Landuse plan means the plan indicating all the zones for any one of the specific dominant uses of urban functions.

Land use planning practices evolved as an attempt to overcome the urban settlement challenges. It engages citizens and policy-makers to plan for development with more intention, foresight, and community focus.

8.2.1: Existing Land Use Plan

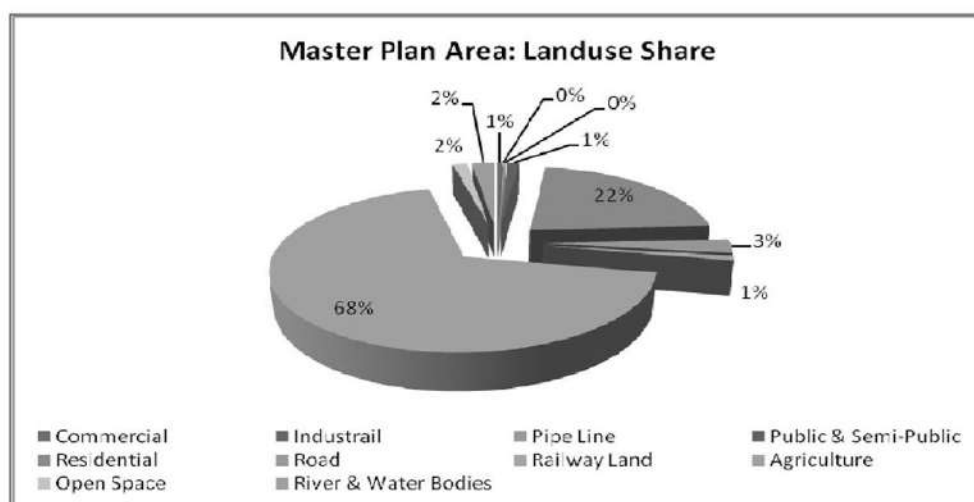
The Master Plan area admeasures 97.3 sq km out of which 26.3 sq km falls within the developed area of the Master plan. The rest of the Master Plan area is more or less agricultural, railway, open spaces and water bodies.

Almost all major roads and inner city areas shows Mix Use Character in the urban areas of the master plan area. However, in the rural areas there are only small retail stores with basic supplies near housing. However the distances in city is not much and working or shopping place can be reached in less than 15 minutes from most of the areas.

The primary land use of the master plan area is agricultural followed by residential, water bodies, transportation, open areas and public –semipublic. Commercial landuse occupies a miniscule percentage (0.47% only) of the total landuse. Total developed area is only 27.03% of the total landuse. The master plan area can be classified into the following zones:

1. Town area (Pathsala & Patacharkuchi) – this comprises of the town area or the urban area which is mostly residential, commercial and public and semipublic due to presence of educational institutions and hostel facilities.
2. Railway land
3. Rural area – mainly characterized by presence of agriculture and related activities.

Pathsala Patacharkuchi Existing Landuse			
Legend	Area (Sq. m)	PC to Developed Area	Percentage Landuse
Commercial	458109	0.47	0.47
Industrial	27189	0.03	0.03
Pipe Line	213345	0.22	0.22
Public & Semi-Public	1225832.00	1.26	1.26
Residential	21572227.00	22.17	22.17
Road	2798247.00	2.88	2.88
Total Developed Area	26294949.00	0.00	27.03
Railway Land	1010495	1.04	1.04
Agriculture	66303997.00	68.15	68.15
Open Space	1461363	1.50	1.50
River & Water Bodies	2224309.00	2.29	2.29
Total Area	97295113.00	100	100.00



8.2.2: Proposed Land Use Plan

The Land Use Plan – 2031 for PPMA has been prepared considering:

- i) The vision and goals as enunciated
- ii) Improvement of existing condition of PPMA and to develop the urban structure with a population of 88168 by 2031.
- iii) Restructuring of land uses based on sectoral studies
- iv) Setting up of zoning regulation on the proposed landuse basis for controlled growth and development of economic activity and maintaining and upgrading quality of life.
- v) Accommodating existing and future development
- vi) Ensuring orderly transport network for easy accessibility of people and smooth movement of goods and services.

The proposed land use plan has been prepared taking into consideration the minimum dislocation of existing land uses inter – relating the highest order of activities with planning areas and establishing home work place relationship. The plan prepared will determinate a physical base for massive new growth through a major programme of land acquisition and Installation of infrastructures.

LANDUSE DISTRIBUTION

The table below shows the details of proposed land of the Greater Pathsala Patacharkuchi Master plan area by 2031.

Pathsala Patacharkuchi Proposed Landuse			
Legend	Area (Sq. m)	Percentage Landuse	Percentage Landuse
Agriculture	44570714.00	45.79	45.79
Commercial	452773	0.47	3.06
Commercial Proposed	2528025	2.60	
Industrial	27189	0.03	4.39
Industrial Proposed	4242216	4.36	
Pipe Line	213345	0.22	0.22
Public and Semi-Public	1212866	1.25	3.22
Public and Semi-Public Proposed	1923081	1.98	
Railway Land	1010495	1.04	1.04
Residential	19743530	20.29	37.12
Residential Proposed	16380934	16.83	
River & Water Bodies	2224309	2.29	2.29
Road	2798250	2.88	2.88
Total Area	97327727.00	100.00	100

Planning is a continuous process and the preparation of plan implies its actual translation into reality. The Greater Pathsala Patacharkuchi Master plan area is not just a landuse classification

Land Use pattern:

In our context, no settlement functions within the bounds of single use zone. Some mixed land uses are recommended, amongst compatible land uses to give more variety, options and make it functional and easily operational. Proposed land use structure for this plan has been decided taking into consideration of minimum dislocation of existing land use pattern, and establishment of living area and work place relationship.

Residential use:

It is observed that existing residential areas are all scattered, spontaneous and grossly underutilized with very low density. In this plan, emphasis is laid on increasing the density so as to achieve optimum utilization of available land, and relative harmonious disposition of areas in relation to other land uses for efficient functioning of the area.

Commercial use:

The present Pathsala-Patacharkuchi MB areas market centres are envisaged to grow further and become a specialized commercial centre of the area due to scope for its expansion. It would include wholesale market, retail shops, services shops, daily/ weekly markets etc. and act as a community centre for the region. Other commercial activities will be scattered at cluster centres and sector centres in a hierarchical manner to relieve the pressure on the main market areas. Pathsala & Patacharkuchi towns would be developed as a community centre with the distribution of activities like shopping (retail, limited wholesale, services, repair), informal shopping, commercial offices, cinema, hotel, guest house, Nursing homes, service industries, auditorium, library, weekly markets, local govt. offices, Bus terminal, Fire stations, police, electric substation, post and telegraph, petrol pump, conveniences residential etc.

There will be number of cluster centres with distribution of activities like shopping (retail service, repair), informal shopping, conveniences, residential etc.

Industrial use:

An area of 27189 sq.kms, developed area is recommended which is located at Pathsala, Patacharkuchi, Barbala, Dharamtala & Raipur area for light and other medium hazardous industries which are to be established with the recommendations of Industries Department and Pollution Control Board. The trend of growth of industries shall be similar to the nature of existing industrial activities of the area and actual siting of the industries shall be governed by the pollution control norms and other regulations formed by the concerned line Departments like Industry, Forest, Environment etc. of the State Govt.

Uses permissible in industrial zones are auto supply store and show room for motor vehicle and machinery, automobile service and repairing stations, banks, canteens and eatery, housing serving the industries, commercial/business offices, community hall and welfare centre, contractor plant and storage of building materials, convenience shopping centers, cottage handloom and household industries, dispensary, existing villages, general industries as in Annexure-A, indoor games hall, integrated township, other govt. services and facilities, night shelter, nursery, horticulture and orchards, open air theatres, parks, playgrounds, recreational area, piggery, police station, outpost and fire station, post

office, telephone exchange, telegraph offices, industrial research and development centre, residential dwelling low income group, restaurant ,cafeteria, retail shop, service centre, sewerage treatment plant, storage of petroleum and other inflammable materials, storage, warehouses, go-downs, vending booth, vocational training centre, water treatment plant, other industries not included in Annexure –A are allowed in Medium Industrial Zone subjected to clearance from Industries Department and Pollution Control Board.

CHAPTER 9:

PROPOSED PROJECTS BRIEF AND TENTATIVE FUNDING SOURCE:

An assessment of future population and its' future characteristics is the basic requirement for preparation of a development plan of a human settlement. However it is equally difficult proposition to work out exact estimates of future population of a settlement, because of the factors, on which the growth depends, cannot be foreseen accurately.

While arriving at the projected figure the following factors were taken into account:

- i) Natural growth of population of the area.
- ii) Trend of migration of population from vast rural hinterland and expansion of saturation of adjoining Area.
- iii) Various development projects being taken up in the planning and its adjoining areas.
- iv) Availability of vacant land and existence physical barrier such as low, Marshy flood prone area.

Following projects are in progress in Pathsala Patacharkuchi Master Plan Area.

Pathsala MB

Sl. No.	Name of Scheme	Project Detail
1	15th Finance	Improvement of road with paver blocks at ward no.5 &10
2	15th Finance	Protection work at Ananta dham, at ward no.-8.
3	15th Finance	Bio Mining Plant (M.S.W)at ward no. 9
4	15th Finance	R.O. Plant (drinking water plant) at Pathsala Daily Bazar, D.C. Office road & Pathsala Municipal Office.

5	PMAY(U)	Sanctioned- 576 no. of House. Grounded - 431 no. of House.
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Patacharkuchi MB

Sl. No.	Name of Scheme	Project Detail
1	14th Finance	Constr. of R.C.C. cover Drain at ward no -3
2	14th & 15th Finance	Improvement of road with paver blocks at ward no.2,5,6
3	14th Finance	Improvement of road at ward no2,3,5,6
4	14th Finance	Construction of office staff chamber in Patacharkuchi MB. Office.
5	14th Finance	Maintenance of road at ward 1,2,3&4
6	15th Finance	New park Creation (Bank of Barpukhuri)
7	15th Finance	Boundary wall/Earth Filling/Dumping Ground
8.	15th Finance	Car/ Bike /Vehicle stand at Patacharkuchi MB. office
9	15th Finance	Water Tank and Drinking water facilities near new circle office ,Bajali
10.	PMAY(U)	Sanctioned- 193 no. of House. Grounded - 140 no. of House

Moreover a site for HOUSING FOR ALL SCHEME has been proposed in PPMP area.

CHAPTER 10: DISASTER PLAN

10.1: FLOOD:

As the monsoon sweeps through North east India, much of Assam is under water yet again. Assam with its vast network of rivers are more prone to natural disasters like flood and erosion, which has a negative impact on overall development of the State. The Brahmaputra and Barak rivers with more than 50 numbers of tributaries feeding them, causes the flood devastation in the monsoon period each year. The flood and erosion problems of Assam is singularly different from other states so far as extent and duration of flooding and magnitude of erosion is concerned and is probably the most acute and unique in the country. During the year 2004 and 2014 the South bank tributaries of Brahmaputra in lower Assam, experienced flash floods of high magnitude. Barpeta is one of the disastrous flood prone district of Assam. The district is prone to severe flood hazard by the rivers Pahumara & Kaldia .



The flood havoc is more pronounced if simultaneously the mighty Brahmaputra is in spate. The measures taken so far to mitigate flood problem in the district are now proved to be inadequate. The newly formed Bajali district of Assam covers an area of 418 sq. km. The district

has fascinating diversified landscape sloping from north to south which includes highlands covered by forests, plain fertile lands suitable for agricultural activities and low-lying areas containing water bodies and swamps. Flood is a perennial problem and all kinds of common flood damages prevail in the district. Flood cause large scale damages to the socio-economic life of the people as well as to the ecology and environment of the district to a certain extent. During monsoon period these rivers are over loaded due to heavy and continuous rain spells.

Pathsala is to be considered as the educational hub of Assam. The River Kaldia is one of the most important tributary of the mighty Brahmaputra River, it touches Pathsala-Patacharkuchi MB areas. Physical as well as human-induced causes are responsible for the causes of floods in these respective MB areas. Physical causes are- Geological and Tectonic causes, meteorological causes and Physiographic causes etc. Human-induced causes especially- building activity, eventual urbanisation, construction of bridges/dams, deforestation, land-use changes etc. Basically this region mainly faces flash floods due to heavy spells of rain. The mostly flood affected villages in Pathsala-Patacharkuchi MB areas are-

The major impact of floods are-

1. Loss of human being and livestock.
2. Damage to the crops creating scarcity of food grains.
3. Disrupting all sorts of communication such as- roads/railways.
4. Damage to the infrastructure in flood prone areas.
5. Outbreak of epidemic.
6. Shortage of drinking water, disruption of sanitary, water supply and electricity.
7. Sediments occur at paddy fields losing its fertility.
8. Level of river rises as a result of erosion of river bank after every flood.
9. River Dolphin (Sihu), a rare species living in the Brahmaputra River is going to extinct day by day due to devastating flood every year.
10. The inland fisheries of Pathsala-Patacharkuchi MB areas are greatly affected.

10.2. EARTHQUAKE:

Earthquake is another most important disaster in Assam. As per the latest seismic zoning map of India, Bajali District falls under High Risk Zone-v, where a maximum intensity can be expected. The notable great earthquakes which were responsible for causing great damages in Assam are-1897s, 1950s, 1984s, 2004 etc.

The major impacts of earthquake are-

1. Change in ecological and geographical balances.
2. Loss of human life, livestock & properties.
3. Disruption of all types of communication including road/ railway and mobile network & electricity.
4. Damage to the infrastructures like- buildings, roads, bridges, plants, factories, oil fields etc.
5. The mining process is badly damaged.
6. Catch fire in the building.
7. Outbreak of epidemic.
8. Shortage of food, drinking water, damage of water supply, sanitary
9. Landslide/erosion may occur at hilly places and erosion in plain areas.
10. Overall economy of the state will be greatly hampered and people become panic and fear.

10.3. OTHERS:**10.3.1: SOIL EROSION:**

The soil erosion in Pathsala-Patacharkuchi MB is mainly caused by the River Manas. The people suffers a lot in every year for this erosion of River Manas.

10.3.2: DEFORESTATION:

Assam will loss massive forest cover by 2028. Predicting such loss, the Indian Institute of Remote Sensing (IIRS) has identified increasing human population and subsequent demand on land for cultivation as the major reasons for forest cover depletion in Pathsala-Patacharkuchi.

10.3.3: THUNDERSTORM:

A severe cyclonic storm, locally called 'Bordoisila' that is usually experienced at this time of the year, lashed several parts of Assam including Pathsala-Patacharkuchi MB. It damages houses, blew away the tin roofs of a large number of houses, uprooted trees and electric poles and snapped power lines.

STANDARD OPERATIONAL PROCEDURE (SOP) ON DISASTER

SOP is nothing but a very simplified process that can be executed during or after any type of disaster. SOP details the regularly recurring work processes that are to be conducted or followed within an organisation. They document the way activities are to be performed to facilitate consistent conformance to technical & quality system requirements and to support data quality.

- * Written guideline that precisely defines how operations are to be carried out.
 - * An organisational directive that establishes a standard course of action.
 - * Written guidelines that explain what is expected and required of the personal.
 - * Standardisation of activities-
- ▶ Identify planned and agreed upon roles & actions.
 - ▶ Promotes coordination and communication amongst personal.
 - ▶ Simply decision making during potentially stressful conditions.

The main objective/ purpose of SOP are- people need consistency to achieve top performance. SOP will reduce system variation which is the enemy of efficiency and quality control. Everything should be clearly written in SOP so that employee can coach and support

each other if there is documentation available or exactly how various tasks must be done and everyone knows what their co-workers are supposed to be doing. During post disaster period, this can also help to generate a more co-operative team approach to get all the daily task done correctly, everyday.

If a department is having a good SOP, the tasks to be executed by each and every employee of the department becomes mandatory. So during disaster, everyone will perform his duty as per SOP. No one will have to wait to get order from superior officer. SOP itself a written order that has to be followed by one strictly. There is a lot of scope for this SOP. If a department is having a good SOP, it can perform its duty satisfactorily during or post disaster period.

The nodal officer is the overall in-charge of disaster management plan. He will communicate with DDMA during any type of disaster. Under his guidance, teams are to be formed which will act as per discussion during disaster period such teams are- Awareness team, Search & Rescue team, Damage assessment team, Relief camp management team and Repair & Restoration team etc. The work/ tasks of these will depend on various phase, which are discussed as follows-

1. **PRE-DISASTER:** Capacity building (Training) and sensitization among departmental official & staff. Pre preparedness in case of a disaster like- flood, earthquake etc., collection of some construction materials like- bamboo, rope, wire, wood, sand and cement bags, first aid kit etc. will be kept ready. Coordination with District Disaster Management authority. Dissemination of information for early warning to general public with the Aegis of DDMA.

Private building is to be identified suitable for use for shelters by the department and circle. Prepare the list of such buildings and submit them to District Authorities. Ensure that buildings codes are strictly followed by public, they should be made mandatory. Ensure that the new construction does not block natural drainage lines and also suitable guidelines for retrofitting may be issued.

2. **DURING DISASTER:** During disaster this department will provide technical manpower support to restore essential services and coordinate with DDMA. Alerts the field teams, the teams have to start working as per assigned to each team. Enquiring the availability of safe shelter for affected people and also enquire the availability of machineries and requesting the Owners to keep the machinery ready for deployment where necessary. Supply water, first aid and then contact with SOP of other department. Rescue the persons which are badly affected.

Deputing the field staff from non-affected areas to assist staffs in likely affected areas. Staff on leave should return to headquarters and no leave shall be sanctioned at the time of disaster.

3. POST DISASTER: After the disaster this department will make assessment of destruction and report to District Administration. Identification of rehabilitation site. The affected areas should be surveyed in detail. If possible, it is to be tried to repair the damage structures by retrofitting. If it is not possible the matter should be discussed with district administration for demolition of the structure. Report of damages should be prepared. Estimates for repairing/ renovation should be prepared and to be submitted for financial sanction.

The affected people should be given shelter in a safe and hygienic place available with all temporary facilities like- water, toilet etc. separately for both men and women as per as possible. Proper implementation and enforcement of Assam Notified Urban Area Building Rules-2014 (ANUABR) & sensitization among stakeholders engaged for constructional work/ owners to use disaster resistant technologies.

CHAPTER 11

UNIFORM ZONING REGULATIONS FOR PATHSALA-PATACHARKUCHI MASTER PLAN AREA

11.1: PLAN IMPLEMENTATION

11.1.1 Zoning Plan

Zoning means the method of accomplishing a suitable arrangement of different land use components of a town. Although it is an integral part of the overall plan yet it does not mean the only arrangement. Good zoning ensures right use of available land. In order to achieve the goals and objectives of the plan a zoning plan is prepared earmarking different use areas with suitable boundaries. This Zoning plan should be read in conjunction with the land use plan and zoning regulations appended herewith.

11.1.2: Zoning Regulations

Zoning Regulations play a very important role in controlling and promoting urban development and redevelopment in rational lines. They are also useful in limiting urban growth and in a broader sense can also be used for laying down broad directives in regional plan. Zoning regulations form an integral part of any Master Plan and these have been used extensively to control development of urban areas.

Zoning Regulations have been widely accepted as legal instrument of control and promotion of development and in fact it is the Zoning regulation that an ordinary developer comes into contact with while undertaking the development within the framework of any Master Plan. Thus, these regulations can do a great service in portraying the intension of the Master Plan and promotion its objectives.

Zoning Regulations would help in controlling density of development and land use in each zone in appropriate manner. Zoning Regulations for Pathsala-Patacharkuchi Master Plan Area will follow the uniform zoning regulation as approved and notified by the Government vide No.226, Dispur the 16th December, 2000 published in the Assam Gazette Extra-Ordinary on 16th December, 2000.

11.1.3: PLAN ADMINISTRATION

The Master Plan and Zoning Regulation for Pathsala-Patacharkuchi as presented here contains the broad policies and programmes for improvement and development of greater Pathsala Patacharkuchi area up to the year 2041. The administration of this plan from its initiation to the realization will be carried out within the frame work of the Assam Town & Country Planning Act, of 1956 as amended from time to time.

The Town & Country Planning Organization of the State Government besides preparation of the Master Plan and zoning Regulation for Pathsala-Patacharkuchi will provide necessary guidance by rendering technical advice and by arranging proper scrutiny of the development schemes so as to ensure that the

proposed development of Pathsala-Patacharkuchi conform to the proposals contained in the Master Plan and Zoning Regulations.

Section 8 of Assam Town & Country Planning Act, 1959 empowers the Government to constitute a Development Authority for the Pathsala-Patacharkuchi Master Plan area for enforcement control and implementation of development proposals as envisages in the Pathssala-Patacharkuchi Master Plan. As per Section 13 of the same act all development to be undertaken within the Pathsala-Patacharkuchi Master Plan area will be subjected to technical scrutiny and approval from the development authority so as to conform with the Master Plan.

11.1.4: FISCAL PLAN

There may be some changes of this Draft Master Plan for Pathsala-Patacharkuchi and therefore, no fiscal plan has been worked out at this stage. The final Master Plan when completed would provide a basis for preparation of five yearly development programmes and yearly fiscal plans for implementation.

11.1.5: CONCLUSION

Planning is a continuous process and the preparation of plan implies its actual translation into reality. The Master Plan for Pathsala-Patacharkuchi is not just a land use classification elaboration but a vision document to make Pathsala-Patacharkuchi a more sustainable city. Community participation in decision making process in the implementation of the Master Plan will make it a success.

